

# WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

Project/Site: Cumberland County Property City/County: Cumberland County Sampling Date: 3/29/2018  
 Applicant/Owner: CWV, LLC; c/o James H. Martin State: VA Sampling Point: DP-1  
 Investigator(s): Shannon D. Hill, Robert Goodwin Section, Township, Range: Tax Map #44-A-22  
 Landform (hillslope, terrace, etc.): Floodplain Local relief (concave, convex, none): \_\_\_\_\_ Slope (%): 2-4%  
 Subregion (LRR or MLRA): n/a Lat: 37.559960664 Long: -78.1324335127 Datum: \_\_\_\_\_  
 Soil Map Unit Name: Poindexter Wedowee Complex NWI classification: R3  
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes ☒ No \_\_\_\_\_ (If no, explain in Remarks.)  
 Are Vegetation \_\_\_\_\_, Soil \_\_\_\_\_, or Hydrology \_\_\_\_\_ significantly disturbed? Are "Normal Circumstances" present? Yes ☒ No \_\_\_\_\_  
 Are Vegetation \_\_\_\_\_, Soil \_\_\_\_\_, or Hydrology \_\_\_\_\_ naturally problematic? (If needed, explain any answers in Remarks.)

## SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No _____ Hydric Soil Present? Yes <input checked="" type="checkbox"/> No _____ Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No _____	Is the Sampled Area within a Wetland? Yes <input checked="" type="checkbox"/> No _____
Remarks:  Data point was taken next to flag A-70.	

## HYDROLOGY

<b>Wetland Hydrology Indicators:</b> <u>Primary Indicators (minimum of one is required; check all that apply)</u> <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> True Aquatic Plants (B14) <input checked="" type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input checked="" type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> Aquatic Fauna (B13)		<u>Secondary Indicators (minimum of two required)</u> <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <input checked="" type="checkbox"/> Drainage Patterns (B10) <input checked="" type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input checked="" type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> Microtopographic Relief (D4) <input type="checkbox"/> FAC-Neutral Test (D5)
<b>Field Observations:</b> Surface Water Present? Yes _____ No <input checked="" type="checkbox"/> Depth (inches): _____ Water Table Present? Yes <input checked="" type="checkbox"/> No _____ Depth (inches): <u>6"</u> Saturation Present? Yes _____ No <input checked="" type="checkbox"/> Depth (inches): _____ (includes capillary fringe)	Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No _____	
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:		
Remarks:		

**VEGETATION (Five Strata) – Use scientific names of plants.**

 Sampling Point: DP-1

Tree Stratum (Plot size: <u>20'x20'</u> )	Absolute % Cover	Dominant Species?	Indicator Status	
1. <u>Acer rubrum</u>	<u>20%</u>	<u>YES</u>	<u>FAC</u>	<b>Dominance Test worksheet:</b> Number of Dominant Species That Are OBL, FACW, or FAC: <u>6</u> (A)  Total Number of Dominant Species Across All Strata: <u>6</u> (B)  Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100%</u> (A/B)
2. <u>Betula nigra</u>	<u>15%</u>	<u>YES</u>	<u>FACW</u>	
3. _____				
4. _____				
5. _____				
6. _____				
<u>35%</u> = Total Cover				<b>Prevalence Index worksheet:</b> Total % Cover of: _____ Multiply by: OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: _____ (A) _____ (B)  Prevalence Index = B/A = _____
50% of total cover: <u>17.5%</u> 20% of total cover: <u>7%</u>				
<b>Sapling Stratum</b> (Plot size: <u>20'x20'</u> )				
1. <u>Carpinus caroliniana</u>	<u>20%</u>	<u>YES</u>	<u>FAC</u>	
2. _____				
3. _____				
4. _____				
5. _____				
6. _____				
<u>20%</u> = Total Cover				<b>Hydrophytic Vegetation Indicators:</b> <input type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation <input checked="" type="checkbox"/> 2 - Dominance Test is >50% <input type="checkbox"/> 3 - Prevalence Index is ≤3.0 <sup>1</sup> <input type="checkbox"/> 4 - Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)  <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
50% of total cover: <u>10%</u> 20% of total cover: <u>4%</u>				
<b>Shrub Stratum</b> (Plot size: <u>20'x20'</u> )				
1. _____				
2. _____				
3. _____				
4. _____				
5. _____				
6. _____				
_____ = Total Cover				<b>Definitions of Five Vegetation Strata:</b>  <b>Tree</b> – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).  <b>Sapling</b> – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.  <b>Shrub</b> – Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.  <b>Herb</b> – All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately 3 ft (1 m) in height.  <b>Woody vine</b> – All woody vines, regardless of height.
50% of total cover: _____ 20% of total cover: _____				
<b>Herb Stratum</b> (Plot size: <u>20'x20'</u> )				
1. <u>Vaccinium corymbosum</u>	<u>15%</u>	<u>YES</u>	<u>FACW</u>	
2. _____				
3. _____				
4. _____				
5. _____				
6. _____				
7. _____				
8. _____				
9. _____				
10. _____				
11. _____				
<u>15%</u> = Total Cover				
50% of total cover: <u>7.5%</u> 20% of total cover: <u>3%</u>				
<b>Woody Vine Stratum</b> (Plot size: <u>20'x20'</u> )				
1. <u>Smilax rotundifolia</u>	<u>20%</u>	<u>YES</u>	<u>FAC</u>	<b>Hydrophytic Vegetation Present?</b> Yes <u>X</u> No _____
2. <u>Vitis riparia</u>	<u>10%</u>	<u>YES</u>	<u>FACW</u>	
3. _____				
4. _____				
5. _____				
6. _____				
<u>30%</u> = Total Cover				
50% of total cover: <u>15%</u> 20% of total cover: <u>6%</u>				
Remarks: (Include photo numbers here or on a separate sheet.)				

## SOIL

Sampling Point: DP-1

[illegible]

## WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

Project/Site: Cumberland County Property City/County: Cumberland County Sampling Date: 3/29/2018  
Applicant/Owner: CWV, LLC; c/o James H. Martin State: VA Sampling Point: DP-1, UPL  
Investigator(s): Shannon D. Hill, Robert Goodwin Section, Township, Range: Tax Map #44-A-22  
Landform (hillslope, terrace, etc.): Hillslope Local relief (concave, convex, none): \_\_\_\_\_ Slope (%): 2-4%  
Subregion (LRR or MLRA): n/a Lat: 37.559960664 Long: -78.132435127 Datum: \_\_\_\_\_  
Soil Map Unit Name: Poindexter Wedowee Complex NWI classification: UPL  
Are climatic / hydrologic conditions on the site typical for this time of year? Yes ☒ No \_\_\_\_\_ (If no, explain in Remarks.)  
Are Vegetation \_\_\_\_\_, Soil \_\_\_\_\_, or Hydrology \_\_\_\_\_ significantly disturbed? Are "Normal Circumstances" present? Yes ☒ No \_\_\_\_\_  
Are Vegetation \_\_\_\_\_, Soil \_\_\_\_\_, or Hydrology \_\_\_\_\_ naturally problematic? (If needed, explain any answers in Remarks.)

### SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes _____ No <input checked="" type="checkbox"/>	Is the Sampled Area within a Wetland? Yes _____ No <input checked="" type="checkbox"/>
Hydric Soil Present? Yes _____ No <input checked="" type="checkbox"/>	
Wetland Hydrology Present? Yes _____ No <input checked="" type="checkbox"/>	
Remarks:  Data point was taken adjacent to flag A-70.	

### HYDROLOGY

<b>Wetland Hydrology Indicators:</b>		<b>Secondary Indicators (minimum of two required)</b>
<u>Primary Indicators (minimum of one is required; check all that apply)</u>		
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> True Aquatic Plants (B14)	<input type="checkbox"/> Surface Soil Cracks (B6)
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)
<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3)	<input type="checkbox"/> Drainage Patterns (B10)
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Moss Trim Lines (B16)
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	<input type="checkbox"/> Dry-Season Water Table (C2)
<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Thin Muck Surface (C7)	<input type="checkbox"/> Crayfish Burrows (C8)
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)
<input type="checkbox"/> Iron Deposits (B5)		<input type="checkbox"/> Stunted or Stressed Plants (D1)
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)		<input type="checkbox"/> Geomorphic Position (D2)
<input type="checkbox"/> Water-Stained Leaves (B9)		<input type="checkbox"/> Shallow Aquitard (D3)
<input type="checkbox"/> Aquatic Fauna (B13)		<input type="checkbox"/> Microtopographic Relief (D4)
		<input type="checkbox"/> FAC-Neutral Test (D5)
<b>Field Observations:</b>		
Surface Water Present? Yes _____ No <input checked="" type="checkbox"/> Depth (inches): _____		
Water Table Present? Yes _____ No <input checked="" type="checkbox"/> Depth (inches): _____		
Saturation Present? Yes _____ No <input checked="" type="checkbox"/> Depth (inches): _____ (includes capillary fringe)		
		<b>Wetland Hydrology Present? Yes _____ No <input checked="" type="checkbox"/></b>
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:		
Remarks:		

**VEGETATION (Five Strata) – Use scientific names of plants.**

 Sampling Point: DP-1, UPL

Tree Stratum (Plot size: <u>20'x20'</u> )	Absolute % Cover	Dominant Species?	Indicator Status															
1. <u>Liriodendron tulipifera</u>	35%	YES	FACU	<b>Dominance Test worksheet:</b> Number of Dominant Species That Are OBL, FACW, or FAC: <u>1</u> (A)  Total Number of Dominant Species Across All Strata: <u>3</u> (B)  Percent of Dominant Species That Are OBL, FACW, or FAC: <u>33%</u> (A/B)														
2. <u>Pinus taeda</u>	35%	YES	FAC															
3. _____																		
4. _____																		
5. _____																		
6. _____																		
70% = Total Cover				<b>Prevalence Index worksheet:</b> <table style="width: 100%;"> <tr> <td style="width: 50%;">Total % Cover of:</td> <td style="width: 50%;">Multiply by:</td> </tr> <tr> <td>OBL species <u>0</u></td> <td>x 1 = <u>0</u></td> </tr> <tr> <td>FACW species <u>0</u></td> <td>x 2 = <u>0</u></td> </tr> <tr> <td>FAC species <u>35</u></td> <td>x 3 = <u>105</u></td> </tr> <tr> <td>FACU species <u>65</u></td> <td>x 4 = <u>260</u></td> </tr> <tr> <td>UPL species <u>0</u></td> <td>x 5 = <u>0</u></td> </tr> <tr> <td>Column Totals: <u>100</u></td> <td>(A) <u>365</u> (B)</td> </tr> </table> Prevalence Index = B/A = <u>3.65</u>	Total % Cover of:	Multiply by:	OBL species <u>0</u>	x 1 = <u>0</u>	FACW species <u>0</u>	x 2 = <u>0</u>	FAC species <u>35</u>	x 3 = <u>105</u>	FACU species <u>65</u>	x 4 = <u>260</u>	UPL species <u>0</u>	x 5 = <u>0</u>	Column Totals: <u>100</u>	(A) <u>365</u> (B)
Total % Cover of:	Multiply by:																	
OBL species <u>0</u>	x 1 = <u>0</u>																	
FACW species <u>0</u>	x 2 = <u>0</u>																	
FAC species <u>35</u>	x 3 = <u>105</u>																	
FACU species <u>65</u>	x 4 = <u>260</u>																	
UPL species <u>0</u>	x 5 = <u>0</u>																	
Column Totals: <u>100</u>	(A) <u>365</u> (B)																	
50% of total cover: <u>35%</u> 20% of total cover: <u>14%</u>																		
Sapling Stratum (Plot size: <u>20'x20'</u> )																		
1. <u>Juniperus virginiana</u>	30%	YES	FACU															
2. _____																		
3. _____																		
4. _____																		
5. _____																		
6. _____																		
30% = Total Cover																		
50% of total cover: <u>15%</u> 20% of total cover: <u>6%</u>																		
Shrub Stratum (Plot size: <u>20'x20'</u> )																		
1. _____																		
2. _____																		
3. _____																		
4. _____																		
5. _____																		
6. _____																		
_____ = Total Cover																		
50% of total cover: _____ 20% of total cover: _____																		
Herb Stratum (Plot size: <u>20'x20'</u> )																		
1. _____																		
2. _____																		
3. _____																		
4. _____																		
5. _____																		
6. _____																		
7. _____																		
8. _____																		
9. _____																		
10. _____																		
11. _____																		
_____ = Total Cover																		
50% of total cover: _____ 20% of total cover: _____																		
Woody Vine Stratum (Plot size: <u>20'x20'</u> )																		
1. _____																		
2. _____																		
3. _____																		
4. _____																		
5. _____																		
_____ = Total Cover																		
50% of total cover: _____ 20% of total cover: _____																		
Remarks: (Include photo numbers here or on a separate sheet.)																		

**Definitions of Five Vegetation Strata:**  
  
**Tree** – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).  
  
**Sapling** – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.  
  
**Shrub** – Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.  
  
**Herb** – All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately 3 ft (1 m) in height.  
  
**Woody vine** – All woody vines, regardless of height.  
  
  
**Hydrophytic Vegetation Present?** Yes \_\_\_\_\_ No X

## SOIL

Sampling Point: DP-1, UPL

[illegible]

# WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

Project/Site: Cumberland County Property City/County: Cumberland County Sampling Date: 3/29/2018  
Applicant/Owner: CWV, LLC; c/o James H. Martin State: VA Sampling Point: DP-2  
Investigator(s): Shannon D. Hill, Robert Goodwin Section, Township, Range: Tax Map #44-A-14  
Landform (hillslope, terrace, etc.): Floodplain Local relief (concave, convex, none): \_\_\_\_\_ Slope (%): 1-3%  
Subregion (LRR or MLRA): n/a Lat: 37.560008776 Long: -78.136042609 Datum: \_\_\_\_\_  
Soil Map Unit Name: Poindexter Wedowee Complex NWI classification: R3  
Are climatic / hydrologic conditions on the site typical for this time of year? Yes ☒ No \_\_\_\_\_ (If no, explain in Remarks.)  
Are Vegetation \_\_\_\_\_, Soil \_\_\_\_\_, or Hydrology \_\_\_\_\_ significantly disturbed? Are "Normal Circumstances" present? Yes ☒ No \_\_\_\_\_  
Are Vegetation \_\_\_\_\_, Soil \_\_\_\_\_, or Hydrology \_\_\_\_\_ naturally problematic? (If needed, explain any answers in Remarks.)

## SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No _____	Is the Sampled Area within a Wetland? Yes <input checked="" type="checkbox"/> No _____
Hydric Soil Present? Yes <input checked="" type="checkbox"/> No _____	
Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No _____	
Remarks:  Data point was taken next to flag A-195.	

## HYDROLOGY

<b>Wetland Hydrology Indicators:</b>		<b>Secondary Indicators (minimum of two required)</b>
<u>Primary Indicators (minimum of one is required; check all that apply)</u>		
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> True Aquatic Plants (B14)	<input type="checkbox"/> Surface Soil Cracks (B6)
<input checked="" type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)
<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3)	<input checked="" type="checkbox"/> Drainage Patterns (B10)
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Moss Trim Lines (B16)
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	<input type="checkbox"/> Dry-Season Water Table (C2)
<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Thin Muck Surface (C7)	<input type="checkbox"/> Crayfish Burrows (C8)
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)
<input type="checkbox"/> Iron Deposits (B5)		<input type="checkbox"/> Stunted or Stressed Plants (D1)
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)		<input checked="" type="checkbox"/> Geomorphic Position (D2)
<input checked="" type="checkbox"/> Water-Stained Leaves (B9)		<input type="checkbox"/> Shallow Aquitard (D3)
<input type="checkbox"/> Aquatic Fauna (B13)		<input type="checkbox"/> Microtopographic Relief (D4)
		<input type="checkbox"/> FAC-Neutral Test (D5)
<b>Field Observations:</b>		
Surface Water Present? Yes _____ No <input checked="" type="checkbox"/> Depth (inches): _____		
Water Table Present? Yes <input checked="" type="checkbox"/> No _____ Depth (inches): <u>4"</u>		
Saturation Present? Yes _____ No <input checked="" type="checkbox"/> Depth (inches): _____ (includes capillary fringe)		
		<b>Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No _____</b>
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:		
Remarks:		

**VEGETATION (Five Strata) – Use scientific names of plants.**

 Sampling Point: DP-2

Tree Stratum (Plot size: <u>20'x20'</u> )	Absolute % Cover	Dominant Species?	Indicator Status	
1. <u>Ilex opaca</u>	30%	YES	FAC	<b>Dominance Test worksheet:</b> Number of Dominant Species That Are OBL, FACW, or FAC: <u>4</u> (A)  Total Number of Dominant Species Across All Strata: <u>4</u> (B)  Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100%</u> (A/B)
2. <u>Carpinus caroliniana</u>	30%	YES	FAC	
3. _____				
4. _____				
5. _____				
6. _____				
60% = Total Cover				<b>Prevalence Index worksheet:</b> Total % Cover of: _____ Multiply by: OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: _____ (A) _____ (B)  Prevalence Index = B/A = _____
50% of total cover: <u>30%</u> 20% of total cover: <u>12%</u>				
Sapling Stratum (Plot size: <u>20'x20'</u> )				
1. _____				
2. _____				
3. _____				
4. _____				
5. _____				
6. _____				
_____ = Total Cover				<b>Hydrophytic Vegetation Indicators:</b> <input type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation <input checked="" type="checkbox"/> 2 - Dominance Test is >50% <input type="checkbox"/> 3 - Prevalence Index is ≤3.0 <sup>1</sup> <input type="checkbox"/> 4 - Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)  <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
50% of total cover: _____ 20% of total cover: _____				
Shrub Stratum (Plot size: <u>20'x20'</u> )				
1. _____				
2. _____				
3. _____				
4. _____				
5. _____				
6. _____				
_____ = Total Cover				<b>Definitions of Five Vegetation Strata:</b>  <b>Tree</b> – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).  <b>Sapling</b> – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.  <b>Shrub</b> – Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.  <b>Herb</b> – All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately 3 ft (1 m) in height.  <b>Woody vine</b> – All woody vines, regardless of height.
50% of total cover: _____ 20% of total cover: _____				
Herb Stratum (Plot size: <u>20'x20'</u> )				
1. _____				
2. _____				
3. _____				
4. _____				
5. _____				
6. _____				
7. _____				
8. _____				
9. _____				
10. _____				
11. _____				
_____ = Total Cover				<b>Hydrophytic Vegetation Present?</b> Yes <u>X</u> No _____
50% of total cover: _____ 20% of total cover: _____				
Woody Vine Stratum (Plot size: <u>20'x20'</u> )				
1. <u>Vitis riparia</u>	30%	YES	FACW	
2. <u>Smilax rotundifolia</u>	10%	YES	FAC	
3. _____				
4. _____				
5. _____				
40% = Total Cover				
50% of total cover: <u>20%</u> 20% of total cover: <u>8%</u>				
Remarks: (Include photo numbers here or on a separate sheet.)				



## SOIL

Sampling Point: DP-2

[illegible]

## WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

Project/Site: Cumberland County Property City/County: Cumberland County Sampling Date: 3/29/2018  
Applicant/Owner: CWV, LLC; c/o James H. Martin State: VA Sampling Point: DP-2, UPL  
Investigator(s): Shannon D. Hill, Robert Goodwin Section, Township, Range: Tax Map #44-A-22  
Landform (hillslope, terrace, etc.): Hillslope Local relief (concave, convex, none): \_\_\_\_\_ Slope (%): 1-3%  
Subregion (LRR or MLRA): n/a Lat: 37.560008776 Long: -78.136042609 Datum: \_\_\_\_\_  
Soil Map Unit Name: Poindexter Wedowee Complex NWI classification: UPL  
Are climatic / hydrologic conditions on the site typical for this time of year? Yes ☒ No \_\_\_\_\_ (If no, explain in Remarks.)  
Are Vegetation \_\_\_\_\_, Soil \_\_\_\_\_, or Hydrology \_\_\_\_\_ significantly disturbed? Are "Normal Circumstances" present? Yes ☒ No \_\_\_\_\_  
Are Vegetation \_\_\_\_\_, Soil \_\_\_\_\_, or Hydrology \_\_\_\_\_ naturally problematic? (If needed, explain any answers in Remarks.)

### SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes _____ No <input checked="" type="checkbox"/>	Hydic Soil Present? Yes _____ No <input checked="" type="checkbox"/>	Wetland Hydrology Present? Yes _____ No <input checked="" type="checkbox"/>	Is the Sampled Area within a Wetland? Yes _____ No <input checked="" type="checkbox"/>
Remarks:  Data point was taken adjacent to flag A-195.			

### HYDROLOGY

<b>Wetland Hydrology Indicators:</b> <u>Primary Indicators (minimum of one is required; check all that apply)</u> <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> True Aquatic Plants (B14) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> Aquatic Fauna (B13)		<u>Secondary Indicators (minimum of two required)</u> <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> Microtopographic Relief (D4) <input type="checkbox"/> FAC-Neutral Test (D5)
<b>Field Observations:</b> Surface Water Present? Yes _____ No <input checked="" type="checkbox"/> Depth (inches): _____ Water Table Present? Yes _____ No <input checked="" type="checkbox"/> Depth (inches): _____ Saturation Present? Yes _____ No <input checked="" type="checkbox"/> Depth (inches): _____ (includes capillary fringe)	<b>Wetland Hydrology Present?</b> Yes _____ No <input checked="" type="checkbox"/>	
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:		
Remarks:		

**VEGETATION (Five Strata) – Use scientific names of plants.**

 Sampling Point: DP-2, UPL

Tree Stratum (Plot size: <u>20'x20'</u> )	Absolute % Cover	Dominant Species?	Indicator Status															
1. <u>Liriodendron tulipifera</u>	30%	YES	FACU	<b>Dominance Test worksheet:</b> Number of Dominant Species That Are OBL, FACW, or FAC: <u>1</u> (A)  Total Number of Dominant Species Across All Strata: <u>4</u> (B)  Percent of Dominant Species That Are OBL, FACW, or FAC: <u>25%</u> (A/B)														
2. <u>Pinus taeda</u>	30%	YES	FAC															
3. _____																		
4. _____																		
5. _____																		
6. _____																		
60% = Total Cover				<b>Prevalence Index worksheet:</b> <table style="width: 100%;"> <tr> <td style="width: 50%;">Total % Cover of:</td> <td style="width: 50%;">Multiply by:</td> </tr> <tr> <td>OBL species <u>0</u></td> <td>x 1 = <u>0</u></td> </tr> <tr> <td>FACW species <u>0</u></td> <td>x 2 = <u>0</u></td> </tr> <tr> <td>FAC species <u>30</u></td> <td>x 3 = <u>90</u></td> </tr> <tr> <td>FACU species <u>70</u></td> <td>x 4 = <u>280</u></td> </tr> <tr> <td>UPL species <u>0</u></td> <td>x 5 = <u>0</u></td> </tr> <tr> <td>Column Totals: <u>100</u> (A)</td> <td><u>370</u> (B)</td> </tr> </table> Prevalence Index = B/A = <u>3.70</u>	Total % Cover of:	Multiply by:	OBL species <u>0</u>	x 1 = <u>0</u>	FACW species <u>0</u>	x 2 = <u>0</u>	FAC species <u>30</u>	x 3 = <u>90</u>	FACU species <u>70</u>	x 4 = <u>280</u>	UPL species <u>0</u>	x 5 = <u>0</u>	Column Totals: <u>100</u> (A)	<u>370</u> (B)
Total % Cover of:	Multiply by:																	
OBL species <u>0</u>	x 1 = <u>0</u>																	
FACW species <u>0</u>	x 2 = <u>0</u>																	
FAC species <u>30</u>	x 3 = <u>90</u>																	
FACU species <u>70</u>	x 4 = <u>280</u>																	
UPL species <u>0</u>	x 5 = <u>0</u>																	
Column Totals: <u>100</u> (A)	<u>370</u> (B)																	
50% of total cover: <u>30%</u> 20% of total cover: <u>12%</u>																		
Sapling Stratum (Plot size: <u>20'x20'</u> )																		
1. <u>Juniperus virginiana</u>	15%	YES	FACU															
2. <u>Fagus grandifolia</u>	25%	YES	FACU															
3. _____																		
4. _____																		
5. _____																		
6. _____																		
40% = Total Cover																		
50% of total cover: <u>20%</u> 20% of total cover: <u>8%</u>																		
Shrub Stratum (Plot size: <u>20'x20'</u> )																		
1. _____																		
2. _____																		
3. _____																		
4. _____																		
5. _____																		
6. _____																		
_____ = Total Cover																		
50% of total cover: _____ 20% of total cover: _____																		
Herb Stratum (Plot size: <u>20'x20'</u> )																		
1. _____																		
2. _____																		
3. _____																		
4. _____																		
5. _____																		
6. _____																		
7. _____																		
8. _____																		
9. _____																		
10. _____																		
11. _____																		
_____ = Total Cover																		
50% of total cover: _____ 20% of total cover: _____																		
Woody Vine Stratum (Plot size: <u>20'x20'</u> )																		
1. _____																		
2. _____																		
3. _____																		
4. _____																		
5. _____																		
_____ = Total Cover																		
50% of total cover: _____ 20% of total cover: _____																		
Remarks: (Include photo numbers here or on a separate sheet.)																		

**Definitions of Five Vegetation Strata:**  
  
**Tree** – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).  
  
**Sapling** – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.  
  
**Shrub** – Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.  
  
**Herb** – All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately 3 ft (1 m) in height.  
  
**Woody vine** – All woody vines, regardless of height.  
  
  
**Hydrophytic Vegetation Present?** Yes \_\_\_\_\_ No X

## SOIL

Sampling Point: DP-2, UPL

[illegible]

# WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

Project/Site: Cumberland County Property City/County: Cumberland County Sampling Date: 3/29/2018  
 Applicant/Owner: CWV, LLC; c/o James H. Martin State: VA Sampling Point: DP-3  
 Investigator(s): Shannon D. Hill, Robert Goodwin Section, Township, Range: Tax Map # 44-A-14  
 Landform (hillslope, terrace, etc.): Floodplain Local relief (concave, convex, none): \_\_\_\_\_ Slope (%): 2-4%  
 Subregion (LRR or MLRA): n/a Lat: 37.559782661 Long: -78.138765453 Datum: \_\_\_\_\_  
 Soil Map Unit Name: Poindexter Wedowee Complex NWI classification: R3  
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes ☒ No \_\_\_\_\_ (If no, explain in Remarks.)  
 Are Vegetation \_\_\_\_\_, Soil \_\_\_\_\_, or Hydrology \_\_\_\_\_ significantly disturbed? Are "Normal Circumstances" present? Yes ☒ No \_\_\_\_\_  
 Are Vegetation \_\_\_\_\_, Soil \_\_\_\_\_, or Hydrology \_\_\_\_\_ naturally problematic? (If needed, explain any answers in Remarks.)

## SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No _____ Hydric Soil Present? Yes <input checked="" type="checkbox"/> No _____ Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No _____	Is the Sampled Area within a Wetland? Yes <input checked="" type="checkbox"/> No _____
Remarks:  Data point was taken next to flag A-260.	

## HYDROLOGY

<b>Wetland Hydrology Indicators:</b> <u>Primary Indicators (minimum of one is required; check all that apply)</u> <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> True Aquatic Plants (B14) <input checked="" type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input checked="" type="checkbox"/> Water-Stained Leaves (B9) <input checked="" type="checkbox"/> Aquatic Fauna (B13)	<u>Secondary Indicators (minimum of two required)</u> <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <input checked="" type="checkbox"/> Drainage Patterns (B10) <input checked="" type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input checked="" type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input checked="" type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> Microtopographic Relief (D4) <input type="checkbox"/> FAC-Neutral Test (D5)
<b>Field Observations:</b> Surface Water Present? Yes _____ No <input checked="" type="checkbox"/> Depth (inches): _____ Water Table Present? Yes <input checked="" type="checkbox"/> No _____ Depth (inches): <u>5"</u> Saturation Present? Yes _____ No <input checked="" type="checkbox"/> Depth (inches): _____ (includes capillary fringe)	Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No _____
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:  Remarks:  B13: Beaver pond was present in the area.	

**VEGETATION (Five Strata) – Use scientific names of plants.**

 Sampling Point: DP-3

Tree Stratum (Plot size: <u>20'x20'</u> )	Absolute % Cover	Dominant Species?	Indicator Status	
1. <u>Acer rubrum</u>	30%	YES	FAC	<b>Dominance Test worksheet:</b> Number of Dominant Species That Are OBL, FACW, or FAC: <u>3</u> (A)  Total Number of Dominant Species Across All Strata: <u>4</u> (B)  Percent of Dominant Species That Are OBL, FACW, or FAC: <u>75%</u> (A/B)
2. <u>Fagus grandifolia</u>	20%	YES	FACU	
3. _____				
4. _____				
5. _____				
6. _____				
50% = Total Cover				<b>Prevalence Index worksheet:</b> Total % Cover of: _____ Multiply by: OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: _____ (A) _____ (B)  Prevalence Index = B/A = _____
50% of total cover: <u>25%</u> 20% of total cover: <u>10%</u>				
Sapling Stratum (Plot size: <u>20'x20'</u> )				
1. <u>Carpinus caroliniana</u>	25%	YES	FAC	
2. _____				
3. _____				
4. _____				
5. _____				
6. _____				
25% = Total Cover				<b>Hydrophytic Vegetation Indicators:</b> <input type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation <input checked="" type="checkbox"/> 2 - Dominance Test is >50% <input type="checkbox"/> 3 - Prevalence Index is ≤3.0 <sup>1</sup> <input type="checkbox"/> 4 - Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)  <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
50% of total cover: <u>12.5%</u> 20% of total cover: <u>5%</u>				
Shrub Stratum (Plot size: <u>20'x20'</u> )				
1. _____				
2. _____				
3. _____				
4. _____				
5. _____				
6. _____				
_____ = Total Cover				<b>Definitions of Five Vegetation Strata:</b>  <b>Tree</b> – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).  <b>Sapling</b> – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.  <b>Shrub</b> – Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.  <b>Herb</b> – All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately 3 ft (1 m) in height.  <b>Woody vine</b> – All woody vines, regardless of height.
50% of total cover: _____ 20% of total cover: _____				
Herb Stratum (Plot size: <u>20'x20'</u> )				
1. _____				
2. _____				
3. _____				
4. _____				
5. _____				
6. _____				
7. _____				
8. _____				
9. _____				
10. _____				
11. _____				
_____ = Total Cover				<b>Hydrophytic Vegetation Present?</b> Yes <u>X</u> No _____
50% of total cover: _____ 20% of total cover: _____				
Woody Vine Stratum (Plot size: <u>20'x20'</u> )				
1. <u>Smilax rotundifolia</u>	25%	YES	FAC	
2. _____				
3. _____				
4. _____				
5. _____				
25% = Total Cover				
50% of total cover: <u>12.5%</u> 20% of total cover: <u>5%</u>				
Remarks: (Include photo numbers here or on a separate sheet.)				

## SOIL

Sampling Point: DP-3

[illegible]

# WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

Project/Site: Cumberland County Property City/County: Cumberland County Sampling Date: 3/29/2018  
 Applicant/Owner: CWV, LLC; c/o James H. Martin State: VA Sampling Point: DP-3, UPL  
 Investigator(s): Shannon D. Hill, Robert Goodwin Section, Township, Range: Tax Map #44-A-14  
 Landform (hillslope, terrace, etc.): Hillslope Local relief (concave, convex, none): \_\_\_\_\_ Slope (%): 2-4%  
 Subregion (LRR or MLRA): n/a Lat: 37.559782261 Long: -78.138765453 Datum: \_\_\_\_\_  
 Soil Map Unit Name: Poindexter Wedowee Complex NWI classification: UPL  
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes ☒ No \_\_\_\_\_ (If no, explain in Remarks.)  
 Are Vegetation \_\_\_\_\_, Soil \_\_\_\_\_, or Hydrology \_\_\_\_\_ significantly disturbed? Are "Normal Circumstances" present? Yes ☒ No \_\_\_\_\_  
 Are Vegetation \_\_\_\_\_, Soil \_\_\_\_\_, or Hydrology \_\_\_\_\_ naturally problematic? (If needed, explain any answers in Remarks.)

## SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes _____ No <input checked="" type="checkbox"/> Hydric Soil Present? Yes _____ No <input checked="" type="checkbox"/> Wetland Hydrology Present? Yes _____ No <input checked="" type="checkbox"/>	<b>Is the Sampled Area within a Wetland?</b> Yes _____ No <input checked="" type="checkbox"/>
Remarks:  Data point was taken adjacent to flag A-260.	

## HYDROLOGY

<b>Wetland Hydrology Indicators:</b> <u>Primary Indicators (minimum of one is required; check all that apply)</u> <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> True Aquatic Plants (B14) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> Aquatic Fauna (B13)		<u>Secondary Indicators (minimum of two required)</u> <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> Microtopographic Relief (D4) <input type="checkbox"/> FAC-Neutral Test (D5)
<b>Field Observations:</b> Surface Water Present? Yes _____ No <input checked="" type="checkbox"/> Depth (inches): _____ Water Table Present? Yes _____ No <input checked="" type="checkbox"/> Depth (inches): _____ Saturation Present? Yes _____ No <input checked="" type="checkbox"/> Depth (inches): _____ (includes capillary fringe)	<b>Wetland Hydrology Present?</b> Yes _____ No <input checked="" type="checkbox"/>	
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:		
Remarks:		



**VEGETATION (Five Strata) – Use scientific names of plants.**

 Sampling Point: DP-3, UPL

Tree Stratum (Plot size: <u>20'x20'</u> )	Absolute % Cover	Dominant Species?	Indicator Status															
1. <u>Liriodendron tulipifera</u>	25%	YES	FACU	<b>Dominance Test worksheet:</b> Number of Dominant Species That Are OBL, FACW, or FAC: <u>1</u> (A)  Total Number of Dominant Species Across All Strata: <u>4</u> (B)  Percent of Dominant Species That Are OBL, FACW, or FAC: <u>25%</u> (A/B)														
2. <u>Pinus taeda</u>	25%	YES	FAC															
3. _____																		
4. _____																		
5. _____																		
6. _____																		
50% = Total Cover				<b>Prevalence Index worksheet:</b> <table style="width: 100%;"> <tr> <td style="width: 50%;">Total % Cover of:</td> <td style="width: 50%;">Multiply by:</td> </tr> <tr> <td>OBL species <u>0</u></td> <td>x 1 = <u>0</u></td> </tr> <tr> <td>FACW species <u>0</u></td> <td>x 2 = <u>0</u></td> </tr> <tr> <td>FAC species <u>25</u></td> <td>x 3 = <u>75</u></td> </tr> <tr> <td>FACU species <u>75</u></td> <td>x 4 = <u>300</u></td> </tr> <tr> <td>UPL species <u>0</u></td> <td>x 5 = <u>0</u></td> </tr> <tr> <td>Column Totals: <u>100</u> (A)</td> <td><u>375</u> (B)</td> </tr> </table> Prevalence Index = B/A = <u>3.75</u>	Total % Cover of:	Multiply by:	OBL species <u>0</u>	x 1 = <u>0</u>	FACW species <u>0</u>	x 2 = <u>0</u>	FAC species <u>25</u>	x 3 = <u>75</u>	FACU species <u>75</u>	x 4 = <u>300</u>	UPL species <u>0</u>	x 5 = <u>0</u>	Column Totals: <u>100</u> (A)	<u>375</u> (B)
Total % Cover of:	Multiply by:																	
OBL species <u>0</u>	x 1 = <u>0</u>																	
FACW species <u>0</u>	x 2 = <u>0</u>																	
FAC species <u>25</u>	x 3 = <u>75</u>																	
FACU species <u>75</u>	x 4 = <u>300</u>																	
UPL species <u>0</u>	x 5 = <u>0</u>																	
Column Totals: <u>100</u> (A)	<u>375</u> (B)																	
50% of total cover: <u>25%</u> 20% of total cover: <u>10%</u>																		
Sapling Stratum (Plot size: <u>20'x20'</u> )																		
1. <u>Fagus grandifolia</u>	30%	YES	FACU															
2. <u>Juniperus virginiana</u>	20%	YES	FACU															
3. _____																		
4. _____																		
5. _____																		
6. _____																		
50% = Total Cover																		
50% of total cover: <u>25%</u> 20% of total cover: <u>10%</u>																		
Shrub Stratum (Plot size: <u>20'x20'</u> )																		
1. _____																		
2. _____																		
3. _____																		
4. _____																		
5. _____																		
6. _____																		
_____ = Total Cover																		
50% of total cover: _____ 20% of total cover: _____																		
Herb Stratum (Plot size: <u>20'x20'</u> )																		
1. _____																		
2. _____																		
3. _____																		
4. _____																		
5. _____																		
6. _____																		
7. _____																		
8. _____																		
9. _____																		
10. _____																		
11. _____																		
_____ = Total Cover																		
50% of total cover: _____ 20% of total cover: _____																		
Woody Vine Stratum (Plot size: <u>20'x20'</u> )																		
1. _____																		
2. _____																		
3. _____																		
4. _____																		
5. _____																		
_____ = Total Cover																		
50% of total cover: _____ 20% of total cover: _____																		
Remarks: (Include photo numbers here or on a separate sheet.)																		

**Definitions of Five Vegetation Strata:**  
  
**Tree** – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).  
  
**Sapling** – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.  
  
**Shrub** – Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.  
  
**Herb** – All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately 3 ft (1 m) in height.  
  
**Woody vine** – All woody vines, regardless of height.  
  
  
**Hydrophytic Vegetation Present?** Yes \_\_\_\_\_ No X

## SOIL

Sampling Point: DP-3, UPL

[illegible]

# WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

Project/Site: Cumberland County Property City/County: Cumberland County Sampling Date: 4/2/2018  
 Applicant/Owner: CWV, LLC; c/o James H. Martin State: VA Sampling Point: DP-4  
 Investigator(s): Hannah L. Miller, Robert Goodwin Section, Township, Range: Tax Map #44-A-13  
 Landform (hillslope, terrace, etc.): Floodplain Local relief (concave, convex, none): \_\_\_\_\_ Slope (%): 1-3%  
 Subregion (LRR or MLRA): n/a Lat: 37.554453962 Long: -78.133166947 Datum: \_\_\_\_\_  
 Soil Map Unit Name: Waterlee sandy loam NWI classification: R3

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ☒ No \_\_\_\_\_ (If no, explain in Remarks.)  
 Are Vegetation \_\_\_\_\_, Soil \_\_\_\_\_, or Hydrology \_\_\_\_\_ significantly disturbed? Are "Normal Circumstances" present? Yes ☒ No \_\_\_\_\_  
 Are Vegetation \_\_\_\_\_, Soil \_\_\_\_\_, or Hydrology \_\_\_\_\_ naturally problematic? (If needed, explain any answers in Remarks.)

## SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No _____ Hydric Soil Present? Yes <input checked="" type="checkbox"/> No _____ Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No _____	Is the Sampled Area within a Wetland? Yes <input checked="" type="checkbox"/> No _____
Remarks:  Data point was taken next to flag B-265.	

## HYDROLOGY

<b>Wetland Hydrology Indicators:</b> <u>Primary Indicators (minimum of one is required; check all that apply)</u> <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> True Aquatic Plants (B14) <input checked="" type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input checked="" type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> Aquatic Fauna (B13)		<u>Secondary Indicators (minimum of two required)</u> <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <input checked="" type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input checked="" type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input checked="" type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> Microtopographic Relief (D4) <input type="checkbox"/> FAC-Neutral Test (D5)
<b>Field Observations:</b> Surface Water Present? Yes _____ No <input checked="" type="checkbox"/> Depth (inches): _____ Water Table Present? Yes <input checked="" type="checkbox"/> No _____ Depth (inches): <u>6"</u> Saturation Present? Yes _____ No <input checked="" type="checkbox"/> Depth (inches): _____ (includes capillary fringe)	Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No _____	
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:		
Remarks:		

**VEGETATION (Five Strata) – Use scientific names of plants.**

 Sampling Point: DP-4

Tree Stratum (Plot size: <u>20'x20'</u> )	Absolute % Cover	Dominant Species?	Indicator Status	
1. <u>Betula nigra</u>	25%	YES	FACW	<b>Dominance Test worksheet:</b> Number of Dominant Species That Are OBL, FACW, or FAC: <u>5</u> (A)  Total Number of Dominant Species Across All Strata: <u>6</u> (B)  Percent of Dominant Species That Are OBL, FACW, or FAC: <u>83%</u> (A/B)
2. <u>Liquidambar styraciflua</u>	20%	YES	FAC	
3. <u>Acer rubrum</u>	10%	YES	FAC	
4. _____				
5. _____				
6. _____				
55% = Total Cover				<b>Prevalence Index worksheet:</b> Total % Cover of: _____ Multiply by: OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: _____ (A) _____ (B)  Prevalence Index = B/A = _____
50% of total cover: <u>27.5%</u> 20% of total cover: <u>11%</u>				
<b>Sapling Stratum</b> (Plot size: <u>20'x20'</u> )				
1. <u>Carpinus caroliniana</u>	25%	YES	FAC	
2. _____				
3. _____				
25% = Total Cover				
50% of total cover: <u>12.5%</u> 20% of total cover: <u>5%</u>				
<b>Shrub Stratum</b> (Plot size: <u>20'x20'</u> )				<b>Hydrophytic Vegetation Indicators:</b> <input type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation <input checked="" type="checkbox"/> 2 - Dominance Test is >50% <input type="checkbox"/> 3 - Prevalence Index is ≤3.0 <sup>1</sup> <input type="checkbox"/> 4 - Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)  <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
1. _____				
2. _____				
3. _____				
4. _____				
5. _____				
_____ = Total Cover				
50% of total cover: _____ 20% of total cover: _____				
<b>Herb Stratum</b> (Plot size: <u>20'x20'</u> )				<b>Definitions of Five Vegetation Strata:</b>  <b>Tree</b> – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).  <b>Sapling</b> – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.  <b>Shrub</b> – Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.  <b>Herb</b> – All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately 3 ft (1 m) in height.  <b>Woody vine</b> – All woody vines, regardless of height.
1. <u>Juncus effusus</u>	5%	YES	FACW	
2. _____				
3. _____				
4. _____				
5. _____				
5% = Total Cover				
50% of total cover: <u>2.5%</u> 20% of total cover: <u>1%</u>				
<b>Woody Vine Stratum</b> (Plot size: <u>20'x20'</u> )				<b>Hydrophytic Vegetation Present?</b> Yes <u>X</u> No _____
1. <u>Smilax rotundifolia</u>	15%	YES	FAC	
2. _____				
3. _____				
4. _____				
5. _____				
15% = Total Cover				
50% of total cover: <u>7.5%</u> 20% of total cover: <u>3%</u>				
Remarks: (Include photo numbers here or on a separate sheet.)				

## SOIL

Sampling Point: DP-4

[illegible]

# WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

Project/Site: Cumberland County Property City/County: Cumberland County Sampling Date: 4/2/2018  
Applicant/Owner: CWV, LLC; c/o James H. Martin State: VA Sampling Point: DP-4, UPL  
Investigator(s): Hannah L. Miller, Robert Goodwin Section, Township, Range: Tax Map #44-A-13  
Landform (hillslope, terrace, etc.): Hillslope Local relief (concave, convex, none): \_\_\_\_\_ Slope (%): 2-4%  
Subregion (LRR or MLRA): n/a Lat: 37.554453962 Long: -78.133166947 Datum: \_\_\_\_\_  
Soil Map Unit Name: Wateree sandy loam NWI classification: UPL  
Are climatic / hydrologic conditions on the site typical for this time of year? Yes ☒ No \_\_\_\_\_ (If no, explain in Remarks.)  
Are Vegetation \_\_\_\_\_, Soil \_\_\_\_\_, or Hydrology \_\_\_\_\_ significantly disturbed? Are "Normal Circumstances" present? Yes ☒ No \_\_\_\_\_  
Are Vegetation \_\_\_\_\_, Soil \_\_\_\_\_, or Hydrology \_\_\_\_\_ naturally problematic? (If needed, explain any answers in Remarks.)

## SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes _____ No <input checked="" type="checkbox"/>	Is the Sampled Area within a Wetland? Yes _____ No <input checked="" type="checkbox"/>
Hydric Soil Present? Yes _____ No <input checked="" type="checkbox"/>	
Wetland Hydrology Present? Yes _____ No <input checked="" type="checkbox"/>	
Remarks:  Data point was taken adjacent to flag B-265.	

## HYDROLOGY

<b>Wetland Hydrology Indicators:</b>		<u>Secondary Indicators (minimum of two required)</u>
<u>Primary Indicators (minimum of one is required; check all that apply)</u>		
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> True Aquatic Plants (B14)	<input type="checkbox"/> Surface Soil Cracks (B6)
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)
<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3)	<input type="checkbox"/> Drainage Patterns (B10)
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Moss Trim Lines (B16)
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	<input type="checkbox"/> Dry-Season Water Table (C2)
<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Thin Muck Surface (C7)	<input type="checkbox"/> Crayfish Burrows (C8)
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)
<input type="checkbox"/> Iron Deposits (B5)		<input type="checkbox"/> Stunted or Stressed Plants (D1)
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)		<input type="checkbox"/> Geomorphic Position (D2)
<input type="checkbox"/> Water-Stained Leaves (B9)		<input type="checkbox"/> Shallow Aquitard (D3)
<input type="checkbox"/> Aquatic Fauna (B13)		<input type="checkbox"/> Microtopographic Relief (D4)
		<input type="checkbox"/> FAC-Neutral Test (D5)
<b>Field Observations:</b>		Wetland Hydrology Present? Yes _____ No <input checked="" type="checkbox"/>
Surface Water Present? Yes _____ No <input checked="" type="checkbox"/> Depth (inches): _____		
Water Table Present? Yes _____ No <input checked="" type="checkbox"/> Depth (inches): _____		
Saturation Present? Yes _____ No <input checked="" type="checkbox"/> Depth (inches): _____ (includes capillary fringe)		
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:		
Remarks:		

**VEGETATION (Five Strata) – Use scientific names of plants.**

 Sampling Point: DP-4, UPL

Tree Stratum (Plot size: <u>20'x20'</u> )	Absolute % Cover	Dominant Species?	Indicator Status															
1. <u>Liriodendron tulipifera</u>	<u>25%</u>	<u>YES</u>	<u>FACU</u>	<b>Dominance Test worksheet:</b> Number of Dominant Species That Are OBL, FACW, or FAC: <u>2</u> (A)  Total Number of Dominant Species Across All Strata: <u>5</u> (B)  Percent of Dominant Species That Are OBL, FACW, or FAC: <u>40%</u> (A/B)														
2. <u>Pinus taeda</u>	<u>20%</u>	<u>YES</u>	<u>FAC</u>															
3. _____																		
4. _____																		
5. _____																		
6. _____																		
<u>45%</u> = Total Cover				<b>Prevalence Index worksheet:</b> <table style="width: 100%;"> <tr> <th style="width: 50%;">Total % Cover of:</th> <th style="width: 50%;">Multiply by:</th> </tr> <tr> <td>OBL species <u>0</u></td> <td>x 1 = <u>0</u></td> </tr> <tr> <td>FACW species <u>0</u></td> <td>x 2 = <u>0</u></td> </tr> <tr> <td>FAC species <u>30</u></td> <td>x 3 = <u>90</u></td> </tr> <tr> <td>FACU species <u>70</u></td> <td>x 4 = <u>280</u></td> </tr> <tr> <td>UPL species <u>0</u></td> <td>x 5 = <u>0</u></td> </tr> <tr> <td>Column Totals: <u>100</u> (A)</td> <td><u>370</u> (B)</td> </tr> </table> Prevalence Index = B/A = <u>3.70</u>	Total % Cover of:	Multiply by:	OBL species <u>0</u>	x 1 = <u>0</u>	FACW species <u>0</u>	x 2 = <u>0</u>	FAC species <u>30</u>	x 3 = <u>90</u>	FACU species <u>70</u>	x 4 = <u>280</u>	UPL species <u>0</u>	x 5 = <u>0</u>	Column Totals: <u>100</u> (A)	<u>370</u> (B)
Total % Cover of:	Multiply by:																	
OBL species <u>0</u>	x 1 = <u>0</u>																	
FACW species <u>0</u>	x 2 = <u>0</u>																	
FAC species <u>30</u>	x 3 = <u>90</u>																	
FACU species <u>70</u>	x 4 = <u>280</u>																	
UPL species <u>0</u>	x 5 = <u>0</u>																	
Column Totals: <u>100</u> (A)	<u>370</u> (B)																	
50% of total cover: <u>22.5%</u> 20% of total cover: <u>9%</u>																		
Sapling Stratum (Plot size: <u>20'x20'</u> )																		
1. <u>Juniperus virginiana</u>	<u>20%</u>	<u>YES</u>	<u>FACU</u>															
2. <u>Ilex opaca</u>	<u>10%</u>	<u>YES</u>	<u>FAC</u>															
3. _____																		
4. _____																		
5. _____																		
6. _____																		
<u>30%</u> = Total Cover																		
50% of total cover: <u>15%</u> 20% of total cover: <u>6%</u>																		
Shrub Stratum (Plot size: <u>20'x20'</u> )																		
1. _____																		
2. _____																		
3. _____																		
4. _____																		
5. _____																		
6. _____																		
<u>        </u> = Total Cover																		
50% of total cover: <u>        </u> 20% of total cover: <u>        </u>																		
Herb Stratum (Plot size: <u>20'x20'</u> )																		
1. <u>Diphasiastrum digitatum</u>	<u>25%</u>	<u>YES</u>	<u>FACU</u>	<b>Hydrophytic Vegetation Indicators:</b> <input type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation <input type="checkbox"/> 2 - Dominance Test is >50% <input type="checkbox"/> 3 - Prevalence Index is ≤3.0 <sup>1</sup> <input type="checkbox"/> 4 - Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)  <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.														
2. _____																		
3. _____																		
4. _____																		
5. _____																		
6. _____																		
7. _____																		
8. _____																		
9. _____																		
10. _____																		
11. _____																		
<u>25%</u> = Total Cover																		
50% of total cover: <u>12.5%</u> 20% of total cover: <u>5%</u>																		
Woody Vine Stratum (Plot size: <u>20'x20'</u> )																		
1. _____																		
2. _____																		
3. _____																		
4. _____																		
5. _____																		
<u>        </u> = Total Cover																		
50% of total cover: <u>        </u> 20% of total cover: <u>        </u>																		
Remarks: (Include photo numbers here or on a separate sheet.)																		

## SOIL

Sampling Point: DP-4, UPL

[illegible]



# WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

Project/Site: Cumberland County Property City/County: Cumberland County Sampling Date: 4/2/2018  
 Applicant/Owner: CWV, LLC; c/o James H. Martin State: VA Sampling Point: DP-5  
 Investigator(s): Hannah L. Miller, Robert Goodwin Section, Township, Range: Tax Map # 44-A-13  
 Landform (hillslope, terrace, etc.): Floodplain Local relief (concave, convex, none): \_\_\_\_\_ Slope (%): 1-3%  
 Subregion (LRR or MLRA): n/a Lat: 37.550000 Long: -78.140000 Datum: \_\_\_\_\_  
 Soil Map Unit Name: Poindexter Wedowee complex NWI classification: R3  
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes ☒ No \_\_\_\_\_ (If no, explain in Remarks.)  
 Are Vegetation \_\_\_\_\_, Soil \_\_\_\_\_, or Hydrology \_\_\_\_\_ significantly disturbed? Are "Normal Circumstances" present? Yes ☒ No \_\_\_\_\_  
 Are Vegetation \_\_\_\_\_, Soil \_\_\_\_\_, or Hydrology \_\_\_\_\_ naturally problematic? (If needed, explain any answers in Remarks.)

## SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No _____ Hydric Soil Present? Yes <input checked="" type="checkbox"/> No _____ Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No _____	Is the Sampled Area within a Wetland? Yes <input checked="" type="checkbox"/> No _____
Remarks:  Data point was taken next to flag C-7.	

## HYDROLOGY

<b>Wetland Hydrology Indicators:</b> <u>Primary Indicators (minimum of one is required; check all that apply)</u> <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> True Aquatic Plants (B14) <input checked="" type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input checked="" type="checkbox"/> Water-Stained Leaves (B9) <input checked="" type="checkbox"/> Aquatic Fauna (B13)		<u>Secondary Indicators (minimum of two required)</u> <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <input checked="" type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input checked="" type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> Microtopographic Relief (D4) <input type="checkbox"/> FAC-Neutral Test (D5)
<b>Field Observations:</b> Surface Water Present? Yes _____ No <input checked="" type="checkbox"/> Depth (inches): _____ Water Table Present? Yes <input checked="" type="checkbox"/> No _____ Depth (inches): <u>4"</u> Saturation Present? Yes _____ No <input checked="" type="checkbox"/> Depth (inches): _____ (includes capillary fringe)	Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No _____	
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:  Remarks:  B13: Small fish were present within the stream.		

**VEGETATION (Five Strata) – Use scientific names of plants.**

 Sampling Point: DP-5

Tree Stratum (Plot size: <u>20'x20'</u> )	Absolute % Cover	Dominant Species?	Indicator Status	
1. <u>Betula nigra</u>	<u>25%</u>	<u>YES</u>	<u>FACW</u>	<b>Dominance Test worksheet:</b> Number of Dominant Species That Are OBL, FACW, or FAC: <u>4</u> (A)  Total Number of Dominant Species Across All Strata: <u>5</u> (B)  Percent of Dominant Species That Are OBL, FACW, or FAC: <u>80%</u> (A/B)
2. <u>Liquidambar styraciflua</u>	<u>30%</u>	<u>YES</u>	<u>FAC</u>	
3. <u>Acer rubrum</u>	<u>10%</u>	<u>YES</u>	<u>FAC</u>	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
<u>65%</u> = Total Cover 50% of total cover: <u>32.5%</u> 20% of total cover: <u>13%</u>				<b>Prevalence Index worksheet:</b> Total % Cover of: _____ Multiply by: _____ OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: _____ (A) _____ (B)  Prevalence Index = B/A = _____
<b>Sapling Stratum</b> (Plot size: <u>20'x20'</u> )				
1. <u>Lindera benzoin</u>	<u>10%</u>	<u>YES</u>	<u>FAC</u>	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
<u>10%</u> = Total Cover 50% of total cover: <u>5%</u> 20% of total cover: <u>2%</u>				
<b>Shrub Stratum</b> (Plot size: <u>20'x20'</u> )				<b>Hydrophytic Vegetation Indicators:</b> <input type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation <input checked="" type="checkbox"/> 2 - Dominance Test is >50% <input type="checkbox"/> 3 - Prevalence Index is ≤3.0 <sup>1</sup> <input type="checkbox"/> 4 - Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)  <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
1. <u>Microstegium vimineum</u>	<u>15%</u>	<u>YES</u>	<u>FAC</u>	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
<u>15%</u> = Total Cover 50% of total cover: <u>7.5%</u> 20% of total cover: <u>3%</u>				
<b>Herb Stratum</b> (Plot size: <u>20'x20'</u> )				<b>Definitions of Five Vegetation Strata:</b>  <b>Tree</b> – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).  <b>Sapling</b> – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.  <b>Shrub</b> – Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.  <b>Herb</b> – All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately 3 ft (1 m) in height.  <b>Woody vine</b> – All woody vines, regardless of height.
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
_____ = Total Cover 50% of total cover: _____ 20% of total cover: _____				
<b>Woody Vine Stratum</b> (Plot size: <u>20'x20'</u> )				
1. <u>Smilax rotundifolia</u>	<u>10%</u>	<u>YES</u>	<u>FAC</u>	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
<u>10%</u> = Total Cover 50% of total cover: <u>5%</u> 20% of total cover: <u>2%</u>				
Remarks: (Include photo numbers here or on a separate sheet.)				<b>Hydrophytic Vegetation Present?</b> Yes <u>X</u> No _____

## SOIL

Sampling Point: DP-5

[illegible]

# WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

Project/Site: Cumberland County Property City/County: Cumberland County Sampling Date: 4/2/2018  
 Applicant/Owner: CWV, LLC; c/o James H. Martin State: VA Sampling Point: DP-5, UPL  
 Investigator(s): Hannah L. Miller, Robert Goodwin Section, Township, Range: Tax Map #44-A-13  
 Landform (hillslope, terrace, etc.): Hillslope Local relief (concave, convex, none): \_\_\_\_\_ Slope (%): 3-5%  
 Subregion (LRR or MLRA): n/a Lat: 37.5500 Long: -78.1400 Datum: \_\_\_\_\_  
 Soil Map Unit Name: Poindexter Wedowee complex NWI classification: UPL  
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes ☒ No \_\_\_\_\_ (If no, explain in Remarks.)  
 Are Vegetation \_\_\_\_\_, Soil \_\_\_\_\_, or Hydrology \_\_\_\_\_ significantly disturbed? Are "Normal Circumstances" present? Yes ☒ No \_\_\_\_\_  
 Are Vegetation \_\_\_\_\_, Soil \_\_\_\_\_, or Hydrology \_\_\_\_\_ naturally problematic? (If needed, explain any answers in Remarks.)

## SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes _____ No <input checked="" type="checkbox"/>	Is the Sampled Area within a Wetland? Yes _____ No <input checked="" type="checkbox"/>
Hydric Soil Present? Yes _____ No <input checked="" type="checkbox"/>	
Wetland Hydrology Present? Yes _____ No <input checked="" type="checkbox"/>	
Remarks:  Data point was taken adjacent to flag C-7.	

## HYDROLOGY

<b>Wetland Hydrology Indicators:</b> <u>Primary Indicators (minimum of one is required; check all that apply)</u> <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> True Aquatic Plants (B14) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> Aquatic Fauna (B13)		<u>Secondary Indicators (minimum of two required)</u> <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> Microtopographic Relief (D4) <input type="checkbox"/> FAC-Neutral Test (D5)
<b>Field Observations:</b> Surface Water Present? Yes _____ No <input checked="" type="checkbox"/> Depth (inches): _____ Water Table Present? Yes _____ No <input checked="" type="checkbox"/> Depth (inches): _____ Saturation Present? Yes _____ No <input checked="" type="checkbox"/> Depth (inches): _____ (includes capillary fringe)	<b>Wetland Hydrology Present? Yes _____ No <input checked="" type="checkbox"/></b>	
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:		
Remarks:		

**VEGETATION (Five Strata) – Use scientific names of plants.**

 Sampling Point: DP-5, UPL

Tree Stratum (Plot size: <u>20'x20'</u> )	Absolute % Cover	Dominant Species?	Indicator Status															
1. <u>Liriodendron tulipifera</u>	<u>30%</u>	<u>YES</u>	<u>FACU</u>	<b>Dominance Test worksheet:</b> Number of Dominant Species That Are OBL, FACW, or FAC: <u>1</u> (A)  Total Number of Dominant Species Across All Strata: <u>5</u> (B)  Percent of Dominant Species That Are OBL, FACW, or FAC: <u>20%</u> (A/B)														
2. <u>Pinus taeda</u>	<u>25%</u>	<u>YES</u>	<u>FAC</u>															
3. <u>Fagus grandifolia</u>	<u>15%</u>	<u>YES</u>	<u>FACU</u>															
4. _____	_____	_____	_____															
5. _____	_____	_____	_____															
6. _____	_____	_____	_____															
<u>70%</u> = Total Cover 50% of total cover: <u>35%</u> 20% of total cover: <u>14%</u>				<b>Prevalence Index worksheet:</b> <table style="width: 100%;"> <tr> <th style="text-align: left;">Total % Cover of:</th> <th style="text-align: left;">Multiply by:</th> </tr> <tr> <td>OBL species <u>0</u></td> <td>x 1 = <u>0</u></td> </tr> <tr> <td>FACW species <u>0</u></td> <td>x 2 = <u>0</u></td> </tr> <tr> <td>FAC species <u>25</u></td> <td>x 3 = <u>75</u></td> </tr> <tr> <td>FACU species <u>75</u></td> <td>x 4 = <u>300</u></td> </tr> <tr> <td>UPL species <u>0</u></td> <td>x 5 = <u>0</u></td> </tr> <tr> <td>Column Totals: <u>100</u> (A)</td> <td><u>375</u> (B)</td> </tr> </table> Prevalence Index = B/A = <u>3.75</u>	Total % Cover of:	Multiply by:	OBL species <u>0</u>	x 1 = <u>0</u>	FACW species <u>0</u>	x 2 = <u>0</u>	FAC species <u>25</u>	x 3 = <u>75</u>	FACU species <u>75</u>	x 4 = <u>300</u>	UPL species <u>0</u>	x 5 = <u>0</u>	Column Totals: <u>100</u> (A)	<u>375</u> (B)
Total % Cover of:	Multiply by:																	
OBL species <u>0</u>	x 1 = <u>0</u>																	
FACW species <u>0</u>	x 2 = <u>0</u>																	
FAC species <u>25</u>	x 3 = <u>75</u>																	
FACU species <u>75</u>	x 4 = <u>300</u>																	
UPL species <u>0</u>	x 5 = <u>0</u>																	
Column Totals: <u>100</u> (A)	<u>375</u> (B)																	
<u>20%</u> = Total Cover 50% of total cover: <u>10%</u> 20% of total cover: <u>4%</u>																		
<b>Sapling Stratum (Plot size: <u>20'x20'</u> )</b>																		
1. <u>Prunus serotina</u>	<u>10%</u>	<u>YES</u>	<u>FACU</u>															
2. <u>Fagus grandifolia</u>	<u>10%</u>	<u>YES</u>	<u>FACU</u>															
3. _____	_____	_____	_____															
4. _____	_____	_____	_____															
5. _____	_____	_____	_____															
6. _____	_____	_____	_____															
<u>20%</u> = Total Cover 50% of total cover: <u>10%</u> 20% of total cover: <u>4%</u>																		
<b>Shrub Stratum (Plot size: <u>20'x20'</u> )</b>																		
1. _____	_____	_____	_____															
2. _____	_____	_____	_____															
3. _____	_____	_____	_____															
4. _____	_____	_____	_____															
5. _____	_____	_____	_____															
6. _____	_____	_____	_____															
_____ = Total Cover 50% of total cover: _____    20% of total cover: _____																		
<b>Herb Stratum (Plot size: <u>20'x20'</u> )</b>																		
1. <u>Polystichum acrostichoides</u>	<u>10%</u>	<u>YES</u>	<u>FACU</u>															
2. _____	_____	_____	_____															
3. _____	_____	_____	_____															
4. _____	_____	_____	_____															
5. _____	_____	_____	_____															
6. _____	_____	_____	_____															
7. _____	_____	_____	_____															
8. _____	_____	_____	_____															
9. _____	_____	_____	_____															
10. _____	_____	_____	_____															
11. _____	_____	_____	_____															
<u>10%</u> = Total Cover 50% of total cover: <u>5%</u> 20% of total cover: <u>2%</u>																		
<b>Woody Vine Stratum (Plot size: <u>20'x20'</u> )</b>																		
1. _____	_____	_____	_____															
2. _____	_____	_____	_____															
3. _____	_____	_____	_____															
4. _____	_____	_____	_____															
5. _____	_____	_____	_____															
_____ = Total Cover 50% of total cover: _____    20% of total cover: _____																		
<b>Hydrophytic Vegetation Present?</b> Yes _____ No <u>X</u>																		

Remarks: (Include photo numbers here or on a separate sheet.)

## SOIL

Sampling Point: DP-5, UPL

[illegible]

# WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

Project/Site: Cumberland County Property City/County: Cumberland County Sampling Date: 4/2/2018  
 Applicant/Owner: CWV, LLC; c/o James H. Martin State: VA Sampling Point: DP-6  
 Investigator(s): Shannon D. Hill Section, Township, Range: Tax Map #  
 Landform (hillslope, terrace, etc.): Floodplain Local relief (concave, convex, none): \_\_\_\_\_ Slope (%): 1-3%  
 Subregion (LRR or MLRA): n/a Lat: 37.561240569 Long: -78.128110388 Datum: \_\_\_\_\_  
 Soil Map Unit Name: Pacolet-Wateree complex/Poindexter-Wedowee complex NWI classification: R3  
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes ☒ No \_\_\_\_\_ (If no, explain in Remarks.)  
 Are Vegetation \_\_\_\_\_, Soil \_\_\_\_\_, or Hydrology \_\_\_\_\_ significantly disturbed? Are "Normal Circumstances" present? Yes ☒ No \_\_\_\_\_  
 Are Vegetation \_\_\_\_\_, Soil \_\_\_\_\_, or Hydrology \_\_\_\_\_ naturally problematic? (If needed, explain any answers in Remarks.)

## SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No _____ Hydric Soil Present? Yes <input checked="" type="checkbox"/> No _____ Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No _____	Is the Sampled Area within a Wetland? Yes <input checked="" type="checkbox"/> No _____
Remarks:  Data point was taken next to flag D-28.	

## HYDROLOGY

<b>Wetland Hydrology Indicators:</b> <u>Primary Indicators (minimum of one is required; check all that apply)</u> <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> True Aquatic Plants (B14) <input checked="" type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input checked="" type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> Aquatic Fauna (B13)		<u>Secondary Indicators (minimum of two required)</u> <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <input checked="" type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input checked="" type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> Microtopographic Relief (D4) <input type="checkbox"/> FAC-Neutral Test (D5)
<b>Field Observations:</b> Surface Water Present? Yes _____ No <input checked="" type="checkbox"/> Depth (inches): _____ Water Table Present? Yes <input checked="" type="checkbox"/> No _____ Depth (inches): <u>4"</u> Saturation Present? Yes _____ No <input checked="" type="checkbox"/> Depth (inches): _____ (includes capillary fringe)	Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No _____	
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:		
Remarks:		

**VEGETATION (Five Strata) – Use scientific names of plants.**

 Sampling Point: DP-6

Tree Stratum (Plot size: <u>20'x20'</u> )	Absolute % Cover	Dominant Species?	Indicator Status	
1. <u>Liquidambar styraciflua</u>	<u>20%</u>	<u>YES</u>	<u>FAC</u>	<b>Dominance Test worksheet:</b> Number of Dominant Species That Are OBL, FACW, or FAC: <u>6</u> (A)  Total Number of Dominant Species Across All Strata: <u>7</u> (B)  Percent of Dominant Species That Are OBL, FACW, or FAC: <u>85%</u> (A/B)
2. <u>Acer rubrum</u>	<u>20%</u>	<u>YES</u>	<u>FAC</u>	
3. <u>Prunus serotina</u>	<u>15%</u>	<u>YES</u>	<u>FACU</u>	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
<u>65%</u> = Total Cover 50% of total cover: <u>32.5%</u> 20% of total cover: <u>13%</u>				<b>Prevalence Index worksheet:</b> Total % Cover of: _____ Multiply by: _____ OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: _____ (A) _____ (B)  Prevalence Index = B/A = _____
<b>Sapling Stratum</b> (Plot size: <u>20'x20'</u> )				
1. <u>Carpinus caroliniana</u>	<u>20%</u>	<u>YES</u>	<u>FAC</u>	
2. <u>Salix nigra</u>	<u>5%</u>	<u>YES</u>	<u>OBL</u>	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
<u>25%</u> = Total Cover 50% of total cover: <u>12.5%</u> 20% of total cover: <u>5%</u>				<b>Hydrophytic Vegetation Indicators:</b> <input type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation <input checked="" type="checkbox"/> 2 - Dominance Test is >50% <input type="checkbox"/> 3 - Prevalence Index is ≤3.0 <sup>1</sup> <input type="checkbox"/> 4 - Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)  <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
<b>Shrub Stratum</b> (Plot size: <u>20'x20'</u> )				
1. <u>Polystichum acrostichoides</u>	<u>15%</u>	<u>YES</u>	<u>FAC</u>	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
<u>15%</u> = Total Cover 50% of total cover: <u>7.5%</u> 20% of total cover: <u>3%</u>				<b>Definitions of Five Vegetation Strata:</b>  <b>Tree</b> – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).  <b>Sapling</b> – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.  <b>Shrub</b> – Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.  <b>Herb</b> – All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately 3 ft (1 m) in height.  <b>Woody vine</b> – All woody vines, regardless of height.
<b>Herb Stratum</b> (Plot size: <u>20'x20'</u> )				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
_____ = Total Cover 50% of total cover: _____ 20% of total cover: _____				<b>Hydrophytic Vegetation Present?</b> Yes <u>X</u> No _____
<b>Woody Vine Stratum</b> (Plot size: <u>20'x20'</u> )				
1. <u>Smilax rotundifolia</u>	<u>5%</u>	<u>YES</u>	<u>FAC</u>	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
<u>5%</u> = Total Cover 50% of total cover: <u>2.5%</u> 20% of total cover: <u>1%</u>				
Remarks: (Include photo numbers here or on a separate sheet.)				



## SOIL

Sampling Point: DP-6

[illegible]

# WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

Project/Site: Cumberland County Property City/County: Cumberland County Sampling Date: 4/2/2018  
 Applicant/Owner: CWV, LLC; c/o James H. Martin State: VA Sampling Point: DP-6, UPL  
 Investigator(s): Hannah L. Miller, Robert Goodwin Section, Township, Range: Tax Map #44-A-22  
 Landform (hillslope, terrace, etc.): Hillslope Local relief (concave, convex, none): \_\_\_\_\_ Slope (%): 3-5%  
 Subregion (LRR or MLRA): n/a Lat: 37.561240569 Long: -78.128110388 Datum: \_\_\_\_\_  
 Soil Map Unit Name: Poindexter Wedowee complex/ Pacolet waterree complex NWI classification: UPL  
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes ☒ No \_\_\_\_\_ (If no, explain in Remarks.)  
 Are Vegetation \_\_\_\_\_, Soil \_\_\_\_\_, or Hydrology \_\_\_\_\_ significantly disturbed? Are "Normal Circumstances" present? Yes ☒ No \_\_\_\_\_  
 Are Vegetation \_\_\_\_\_, Soil \_\_\_\_\_, or Hydrology \_\_\_\_\_ naturally problematic? (If needed, explain any answers in Remarks.)

## SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes _____ No <input checked="" type="checkbox"/> Hydric Soil Present? Yes _____ No <input checked="" type="checkbox"/> Wetland Hydrology Present? Yes _____ No <input checked="" type="checkbox"/>	<b>Is the Sampled Area within a Wetland?</b> Yes _____ No <input checked="" type="checkbox"/>
Remarks:  Data point was taken adjacent to flag D-28.	

## HYDROLOGY

<b>Wetland Hydrology Indicators:</b> <u>Primary Indicators (minimum of one is required; check all that apply)</u> <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> True Aquatic Plants (B14) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> Aquatic Fauna (B13)		<u>Secondary Indicators (minimum of two required)</u> <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> Microtopographic Relief (D4) <input type="checkbox"/> FAC-Neutral Test (D5)
<b>Field Observations:</b> Surface Water Present? Yes _____ No <input checked="" type="checkbox"/> Depth (inches): _____ Water Table Present? Yes _____ No <input checked="" type="checkbox"/> Depth (inches): _____ Saturation Present? Yes _____ No <input checked="" type="checkbox"/> Depth (inches): _____ (includes capillary fringe)	<b>Wetland Hydrology Present?</b> Yes _____ No <input checked="" type="checkbox"/>	
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:		
Remarks:		

**VEGETATION (Five Strata) – Use scientific names of plants.**

 Sampling Point: DP-6, UPL

Tree Stratum (Plot size: <u>20'x20'</u> )	Absolute % Cover	Dominant Species?	Indicator Status															
1. <u>Liriodendron tulipifera</u>	<u>25%</u>	YES	FACU	<b>Dominance Test worksheet:</b> Number of Dominant Species That Are OBL, FACW, or FAC: <u>2</u> (A)  Total Number of Dominant Species Across All Strata: <u>5</u> (B)  Percent of Dominant Species That Are OBL, FACW, or FAC: <u>40%</u> (A/B)														
2. <u>Liquidambar styraciflua</u>	<u>20%</u>	YES	FAC															
3. <u>Diospyros virginiana</u>	<u>10%</u>	NO	FAC															
4. _____																		
5. _____																		
6. _____																		
<u>55%</u> = Total Cover				<b>Prevalence Index worksheet:</b> <table style="width: 100%;"> <tr> <th style="text-align: left;">Total % Cover of:</th> <th style="text-align: left;">Multiply by:</th> </tr> <tr> <td>OBL species <u>0</u></td> <td>x 1 = <u>0</u></td> </tr> <tr> <td>FACW species <u>0</u></td> <td>x 2 = <u>0</u></td> </tr> <tr> <td>FAC species <u>50</u></td> <td>x 3 = <u>150</u></td> </tr> <tr> <td>FACU species <u>50</u></td> <td>x 4 = <u>200</u></td> </tr> <tr> <td>UPL species <u>0</u></td> <td>x 5 = <u>0</u></td> </tr> <tr> <td>Column Totals: <u>100</u></td> <td>(A) <u>350</u> (B)</td> </tr> </table> Prevalence Index = B/A = <u>3.50</u>	Total % Cover of:	Multiply by:	OBL species <u>0</u>	x 1 = <u>0</u>	FACW species <u>0</u>	x 2 = <u>0</u>	FAC species <u>50</u>	x 3 = <u>150</u>	FACU species <u>50</u>	x 4 = <u>200</u>	UPL species <u>0</u>	x 5 = <u>0</u>	Column Totals: <u>100</u>	(A) <u>350</u> (B)
Total % Cover of:	Multiply by:																	
OBL species <u>0</u>	x 1 = <u>0</u>																	
FACW species <u>0</u>	x 2 = <u>0</u>																	
FAC species <u>50</u>	x 3 = <u>150</u>																	
FACU species <u>50</u>	x 4 = <u>200</u>																	
UPL species <u>0</u>	x 5 = <u>0</u>																	
Column Totals: <u>100</u>	(A) <u>350</u> (B)																	
50% of total cover: <u>27.5%</u> 20% of total cover: <u>11%</u>																		
Sapling Stratum (Plot size: <u>20'x20'</u> )																		
1. <u>Pinus taeda</u>	<u>20%</u>	YES	FAC															
2. <u>Fagus grandifolia</u>	<u>10%</u>	YES	FACU															
3. _____																		
4. _____																		
5. _____																		
6. _____																		
<u>30%</u> = Total Cover																		
50% of total cover: <u>15%</u> 20% of total cover: <u>6%</u>																		
Shrub Stratum (Plot size: <u>20'x20'</u> )																		
1. _____																		
2. _____																		
3. _____																		
4. _____																		
5. _____																		
6. _____																		
_____ = Total Cover																		
50% of total cover: _____ 20% of total cover: _____																		
Herb Stratum (Plot size: <u>20'x20'</u> )																		
1. <u>Polystichum acrostichoides</u>	<u>15%</u>	YES	FACU															
2. _____																		
3. _____																		
4. _____																		
5. _____																		
6. _____																		
7. _____																		
8. _____																		
9. _____																		
10. _____																		
11. _____																		
<u>15%</u> = Total Cover																		
50% of total cover: <u>7.5%</u> 20% of total cover: <u>3%</u>																		
Woody Vine Stratum (Plot size: <u>20'x20'</u> )																		
1. _____																		
2. _____																		
3. _____																		
4. _____																		
5. _____																		
_____ = Total Cover																		
50% of total cover: _____ 20% of total cover: _____																		
Remarks: (Include photo numbers here or on a separate sheet.)																		

**Definitions of Five Vegetation Strata:**  
  
**Tree** – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).  
  
**Sapling** – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.  
  
**Shrub** – Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.  
  
**Herb** – All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately 3 ft (1 m) in height.  
  
**Woody vine** – All woody vines, regardless of height.  
  
  
**Hydrophytic Vegetation Present?** Yes \_\_\_\_\_ No X

## SOIL

Sampling Point: DP-6, UPL

[illegible]

## WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

Project/Site: Cumberland County Property City/County: Cumberland County Sampling Date: 4/2/2018  
Applicant/Owner: CWV, LLC; c/o James H. Martin State: VA Sampling Point: DP-7  
Investigator(s): Shannon D. Hill Section, Township, Range: Tax Map # 44-A-19A  
Landform (hillslope, terrace, etc.): Floodplain Local relief (concave, convex, none): \_\_\_\_\_ Slope (%): 1-3%  
Subregion (LRR or MLRA): n/a Lat: \_\_\_\_\_ Long: \_\_\_\_\_ Datum: \_\_\_\_\_  
Soil Map Unit Name: Wateree sandy loam NWI classification: R3  
Are climatic / hydrologic conditions on the site typical for this time of year? Yes ☒ No \_\_\_\_\_ (If no, explain in Remarks.)  
Are Vegetation \_\_\_\_\_, Soil \_\_\_\_\_, or Hydrology \_\_\_\_\_ significantly disturbed? Are "Normal Circumstances" present? Yes ☒ No \_\_\_\_\_  
Are Vegetation \_\_\_\_\_, Soil \_\_\_\_\_, or Hydrology \_\_\_\_\_ naturally problematic? (If needed, explain any answers in Remarks.)

### SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No _____	Is the Sampled Area within a Wetland? Yes <input checked="" type="checkbox"/> No _____
Hydric Soil Present? Yes <input checked="" type="checkbox"/> No _____	
Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No _____	
Remarks:  Data point was taken next to flag D-84.	

### HYDROLOGY

<b>Wetland Hydrology Indicators:</b>		<u>Secondary Indicators (minimum of two required)</u>
<u>Primary Indicators (minimum of one is required; check all that apply)</u>		
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> True Aquatic Plants (B14)	<input type="checkbox"/> Surface Soil Cracks (B6)
<input checked="" type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)
<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3)	<input checked="" type="checkbox"/> Drainage Patterns (B10)
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Moss Trim Lines (B16)
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	<input type="checkbox"/> Dry-Season Water Table (C2)
<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Thin Muck Surface (C7)	<input type="checkbox"/> Crayfish Burrows (C8)
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)
<input type="checkbox"/> Iron Deposits (B5)		<input type="checkbox"/> Stunted or Stressed Plants (D1)
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)		<input checked="" type="checkbox"/> Geomorphic Position (D2)
<input checked="" type="checkbox"/> Water-Stained Leaves (B9)		<input type="checkbox"/> Shallow Aquitard (D3)
<input type="checkbox"/> Aquatic Fauna (B13)		<input type="checkbox"/> Microtopographic Relief (D4)
		<input type="checkbox"/> FAC-Neutral Test (D5)
<b>Field Observations:</b>		
Surface Water Present? Yes _____ No <input checked="" type="checkbox"/> Depth (inches): _____		
Water Table Present? Yes <input checked="" type="checkbox"/> No _____ Depth (inches): <u>6"</u>		
Saturation Present? Yes _____ No <input checked="" type="checkbox"/> Depth (inches): _____ (includes capillary fringe)		
		Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No _____
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:		
Remarks:		

**VEGETATION (Five Strata) – Use scientific names of plants.**

 Sampling Point: DP-7

Tree Stratum (Plot size: <u>20'x20'</u> )	Absolute % Cover	Dominant Species?	Indicator Status	
1. <u>Acer rubrum</u>	20%	YES	FAC	<b>Dominance Test worksheet:</b> Number of Dominant Species That Are OBL, FACW, or FAC: <u>5</u> (A)  Total Number of Dominant Species Across All Strata: <u>6</u> (B)  Percent of Dominant Species That Are OBL, FACW, or FAC: <u>80%</u> (A/B)
2. <u>Platanus occidentalis</u>	20%	YES	FACW	
3. _____				
4. _____				
5. _____				
6. _____				
40% = Total Cover				<b>Prevalence Index worksheet:</b> Total % Cover of: _____ Multiply by: OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: _____ (A) _____ (B)  Prevalence Index = B/A = _____
50% of total cover: <u>20%</u> 20% of total cover: <u>8%</u>				
Sapling Stratum (Plot size: <u>20'x20'</u> )				
1. <u>Carpinus caroliniana</u>	20%	YES	FAC	
2. <u>Liquidambar styraciflua</u>	20%	YES	FAC	
3. _____				
40% = Total Cover				
50% of total cover: <u>20%</u> 20% of total cover: <u>8%</u>				
Shrub Stratum (Plot size: <u>20'x20'</u> )				<b>Hydrophytic Vegetation Indicators:</b> <input type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation <input checked="" type="checkbox"/> 2 - Dominance Test is >50% <input type="checkbox"/> 3 - Prevalence Index is ≤3.0 <sup>1</sup> <input type="checkbox"/> 4 - Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)  <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
1. _____				
2. _____				
3. _____				
4. _____				
5. _____				
_____ = Total Cover				
50% of total cover: _____ 20% of total cover: _____				
Herb Stratum (Plot size: <u>20'x20'</u> )				<b>Definitions of Five Vegetation Strata:</b>  <b>Tree</b> – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).  <b>Sapling</b> – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.  <b>Shrub</b> – Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.  <b>Herb</b> – All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately 3 ft (1 m) in height.  <b>Woody vine</b> – All woody vines, regardless of height.
1. <u>Polystichum acrostichoides</u>	10%	YES	FACU	
2. _____				
3. _____				
4. _____				
5. _____				
10% = Total Cover				
50% of total cover: <u>5%</u> 20% of total cover: <u>2%</u>				
Woody Vine Stratum (Plot size: <u>20'x20'</u> )				<b>Hydrophytic Vegetation Present?</b> Yes <u>X</u> No _____
1. <u>Smilax rotundifolia</u>	10%	YES	FAC	
2. _____				
3. _____				
4. _____				
5. _____				
10% = Total Cover				
50% of total cover: <u>5%</u> 20% of total cover: <u>2%</u>				
Remarks: (Include photo numbers here or on a separate sheet.)				

## SOIL

Sampling Point: DP-7

[illegible]

# WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

Project/Site: Cumberland County Property City/County: Cumberland County Sampling Date: 4/2/2018  
 Applicant/Owner: CWV, LLC; c/o James H. Martin State: VA Sampling Point: DP-7, UPL  
 Investigator(s): Hannah L. Miller, Robert Goodwin Section, Township, Range: Tax Map #44-A-19A  
 Landform (hillslope, terrace, etc.): Hillslope Local relief (concave, convex, none): \_\_\_\_\_ Slope (%): 2-4%  
 Subregion (LRR or MLRA): n/a Lat: 37.563797505 Long: -78.129529420 Datum: \_\_\_\_\_  
 Soil Map Unit Name: Wateree sandy loam NWI classification: UPL  
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes ☒ No \_\_\_\_\_ (If no, explain in Remarks.)  
 Are Vegetation \_\_\_\_\_, Soil \_\_\_\_\_, or Hydrology \_\_\_\_\_ significantly disturbed? Are "Normal Circumstances" present? Yes ☒ No \_\_\_\_\_  
 Are Vegetation \_\_\_\_\_, Soil \_\_\_\_\_, or Hydrology \_\_\_\_\_ naturally problematic? (If needed, explain any answers in Remarks.)

## SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes _____ No <input checked="" type="checkbox"/> Hydric Soil Present? Yes _____ No <input checked="" type="checkbox"/> Wetland Hydrology Present? Yes _____ No <input checked="" type="checkbox"/>	Is the Sampled Area within a Wetland? Yes _____ No <input checked="" type="checkbox"/>
Remarks:  Data point was taken adjacent to flag D-84.	

## HYDROLOGY

<b>Wetland Hydrology Indicators:</b> <u>Primary Indicators (minimum of one is required; check all that apply)</u> <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> True Aquatic Plants (B14) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> Aquatic Fauna (B13)		<u>Secondary Indicators (minimum of two required)</u> <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> Microtopographic Relief (D4) <input type="checkbox"/> FAC-Neutral Test (D5)
<b>Field Observations:</b> Surface Water Present? Yes _____ No <input checked="" type="checkbox"/> Depth (inches): _____ Water Table Present? Yes _____ No <input checked="" type="checkbox"/> Depth (inches): _____ Saturation Present? Yes _____ No <input checked="" type="checkbox"/> Depth (inches): _____ (includes capillary fringe)	Wetland Hydrology Present? Yes _____ No <input checked="" type="checkbox"/>	
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:		
Remarks:		



**VEGETATION (Five Strata) – Use scientific names of plants.**

 Sampling Point: DP-7, UPL

Tree Stratum (Plot size: <u>20'x20'</u> )	Absolute % Cover	Dominant Species?	Indicator Status															
1. <u>Liriodendron tulipifera</u>	<u>30%</u>	YES	FACU	<b>Dominance Test worksheet:</b> Number of Dominant Species That Are OBL, FACW, or FAC: <u>2</u> (A)  Total Number of Dominant Species Across All Strata: <u>5</u> (B)  Percent of Dominant Species That Are OBL, FACW, or FAC: <u>40%</u> (A/B)														
2. <u>Pinus taeda</u>	<u>25%</u>	YES	FAC															
3. _____																		
4. _____																		
5. _____																		
6. _____																		
<u>55%</u> = Total Cover				<b>Prevalence Index worksheet:</b> <table style="width: 100%;"> <tr> <th style="width: 50%;">Total % Cover of:</th> <th style="width: 50%;">Multiply by:</th> </tr> <tr> <td>OBL species <u>0</u></td> <td>x 1 = <u>0</u></td> </tr> <tr> <td>FACW species <u>0</u></td> <td>x 2 = <u>0</u></td> </tr> <tr> <td>FAC species <u>35</u></td> <td>x 3 = <u>105</u></td> </tr> <tr> <td>FACU species <u>65</u></td> <td>x 4 = <u>260</u></td> </tr> <tr> <td>UPL species <u>0</u></td> <td>x 5 = <u>0</u></td> </tr> <tr> <td>Column Totals: <u>100</u> (A)</td> <td><u>365</u> (B)</td> </tr> </table> Prevalence Index = B/A = <u>3.65</u>	Total % Cover of:	Multiply by:	OBL species <u>0</u>	x 1 = <u>0</u>	FACW species <u>0</u>	x 2 = <u>0</u>	FAC species <u>35</u>	x 3 = <u>105</u>	FACU species <u>65</u>	x 4 = <u>260</u>	UPL species <u>0</u>	x 5 = <u>0</u>	Column Totals: <u>100</u> (A)	<u>365</u> (B)
Total % Cover of:	Multiply by:																	
OBL species <u>0</u>	x 1 = <u>0</u>																	
FACW species <u>0</u>	x 2 = <u>0</u>																	
FAC species <u>35</u>	x 3 = <u>105</u>																	
FACU species <u>65</u>	x 4 = <u>260</u>																	
UPL species <u>0</u>	x 5 = <u>0</u>																	
Column Totals: <u>100</u> (A)	<u>365</u> (B)																	
50% of total cover: <u>27.5%</u> 20% of total cover: <u>11%</u>																		
Sapling Stratum (Plot size: <u>20'x20'</u> )																		
1. <u>Juniperus virginiana</u>	<u>20%</u>	YES	FACU															
2. <u>Ilex opaca</u>	<u>10%</u>	YES	FAC															
3. _____																		
4. _____																		
5. _____																		
6. _____																		
<u>30%</u> = Total Cover																		
50% of total cover: <u>15%</u> 20% of total cover: <u>6%</u>																		
Shrub Stratum (Plot size: <u>20'x20'</u> )																		
1. _____				<b>Hydrophytic Vegetation Indicators:</b> <input type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation <input type="checkbox"/> 2 - Dominance Test is >50% <input type="checkbox"/> 3 - Prevalence Index is ≤3.0 <sup>1</sup> <input type="checkbox"/> 4 - Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)  <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.														
2. _____																		
3. _____																		
4. _____																		
5. _____																		
6. _____																		
_____ = Total Cover																		
50% of total cover: _____ 20% of total cover: _____																		
Herb Stratum (Plot size: <u>20'x20'</u> )																		
1. <u>Polystichum acrostichoides</u>	<u>15%</u>	YES	FACU	<b>Definitions of Five Vegetation Strata:</b>  <b>Tree</b> – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).  <b>Sapling</b> – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.  <b>Shrub</b> – Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.  <b>Herb</b> – All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately 3 ft (1 m) in height.  <b>Woody vine</b> – All woody vines, regardless of height.														
2. _____																		
3. _____																		
4. _____																		
5. _____																		
6. _____																		
7. _____																		
8. _____																		
9. _____																		
10. _____																		
11. _____																		
<u>15%</u> = Total Cover																		
50% of total cover: <u>7.5%</u> 20% of total cover: <u>3%</u>																		
Woody Vine Stratum (Plot size: <u>20'x20'</u> )																		
1. _____				<b>Hydrophytic Vegetation Present?</b> Yes _____ No <u>X</u>														
2. _____																		
3. _____																		
4. _____																		
5. _____																		
6. _____																		
_____ = Total Cover																		
50% of total cover: _____ 20% of total cover: _____																		
Remarks: (Include photo numbers here or on a separate sheet.)																		

## SOIL

Sampling Point: DP-7, UPL

[illegible]

# WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

Project/Site: Cumberland County Property City/County: Cumberland County Sampling Date: 4/2/2018  
 Applicant/Owner: CWV, LLC; c/o James H. Martin State: VA Sampling Point: DP-8  
 Investigator(s): Shannon D. Hill Section, Township, Range: Tax Map # 44-A-19A  
 Landform (hillslope, terrace, etc.): Floodplain Local relief (concave, convex, none): \_\_\_\_\_ Slope (%): 0-2%  
 Subregion (LRR or MLRA): n/a Lat: 37.565319214 Long: -78.129595931 Datum: \_\_\_\_\_  
 Soil Map Unit Name: Wateree sandy loam NWI classification: PFO

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ☒ No \_\_\_\_\_ (If no, explain in Remarks.)  
 Are Vegetation \_\_\_\_\_, Soil \_\_\_\_\_, or Hydrology \_\_\_\_\_ significantly disturbed? Are "Normal Circumstances" present? Yes ☒ No \_\_\_\_\_  
 Are Vegetation \_\_\_\_\_, Soil \_\_\_\_\_, or Hydrology \_\_\_\_\_ naturally problematic? (If needed, explain any answers in Remarks.)

## SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No _____ Hydric Soil Present? Yes <input checked="" type="checkbox"/> No _____ Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No _____	Is the Sampled Area within a Wetland? Yes <input checked="" type="checkbox"/> No _____
Remarks:  Data point was taken next to flag D-121.	

## HYDROLOGY

<b>Wetland Hydrology Indicators:</b> <u>Primary Indicators (minimum of one is required; check all that apply)</u> <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> True Aquatic Plants (B14) <input checked="" type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input checked="" type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> Aquatic Fauna (B13)		<u>Secondary Indicators (minimum of two required)</u> <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <input checked="" type="checkbox"/> Drainage Patterns (B10) <input checked="" type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input checked="" type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> Microtopographic Relief (D4) <input type="checkbox"/> FAC-Neutral Test (D5)
<b>Field Observations:</b> Surface Water Present? Yes _____ No <input checked="" type="checkbox"/> Depth (inches): _____ Water Table Present? Yes <input checked="" type="checkbox"/> No _____ Depth (inches): <u>4"</u> Saturation Present? Yes _____ No <input checked="" type="checkbox"/> Depth (inches): _____ (includes capillary fringe)	Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No _____	
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:		
Remarks:		

**VEGETATION (Five Strata) – Use scientific names of plants.**

 Sampling Point: DP-8

Tree Stratum (Plot size: <u>20'x20'</u> )	Absolute % Cover	Dominant Species?	Indicator Status	
1. <u>Carpinus caroliniana</u>	20%	YES	FAC	<b>Dominance Test worksheet:</b> Number of Dominant Species That Are OBL, FACW, or FAC: <u>6</u> (A)  Total Number of Dominant Species Across All Strata: <u>6</u> (B)  Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100%</u> (A/B)
2. <u>Acer rubrum</u>	15%	YES	FAC	
3. <u>Platanus occidentalis</u>	15%	YES	FACW	
4. _____				
5. _____				
6. _____				
50% = Total Cover				<b>Prevalence Index worksheet:</b> Total % Cover of: _____ Multiply by: OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: _____ (A) _____ (B)  Prevalence Index = B/A = _____
50% of total cover: <u>25%</u> 20% of total cover: <u>10%</u>				
<b>Sapling Stratum</b> (Plot size: <u>20'x20'</u> )				
1. <u>Acer rubrum</u>	20%	YES	FAC	
2. <u>Liquidambar styraciflua</u>	15%	YES	FAC	
3. _____				
35% = Total Cover				
50% of total cover: <u>17.5%</u> 20% of total cover: <u>7%</u>				
<b>Shrub Stratum</b> (Plot size: <u>20'x20'</u> )				
1. _____				<b>Hydrophytic Vegetation Indicators:</b> <input type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation <input checked="" type="checkbox"/> 2 - Dominance Test is >50% <input type="checkbox"/> 3 - Prevalence Index is ≤3.0 <sup>1</sup> <input type="checkbox"/> 4 - Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)  <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
2. _____				
3. _____				
4. _____				
5. _____				
6. _____				
_____ = Total Cover				
50% of total cover: _____ 20% of total cover: _____				
<b>Herb Stratum</b> (Plot size: <u>20'x20'</u> )				
1. <u>Juncus effusus</u>	15%	YES	FACW	<b>Definitions of Five Vegetation Strata:</b>  <b>Tree</b> – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).  <b>Sapling</b> – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.  <b>Shrub</b> – Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.  <b>Herb</b> – All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately 3 ft (1 m) in height.  <b>Woody vine</b> – All woody vines, regardless of height.
2. _____				
3. _____				
4. _____				
5. _____				
6. _____				
15% = Total Cover				
50% of total cover: <u>7.5%</u> 20% of total cover: <u>3%</u>				
<b>Woody Vine Stratum</b> (Plot size: <u>20'x20'</u> )				
1. _____				<b>Hydrophytic Vegetation Present?</b> Yes <u>X</u> No _____
2. _____				
3. _____				
4. _____				
5. _____				
6. _____				
_____ = Total Cover				
50% of total cover: _____ 20% of total cover: _____				
Remarks: (Include photo numbers here or on a separate sheet.)				

## SOIL

Sampling Point: DP-8

[illegible]

# WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

Project/Site: Cumberland County Property City/County: Cumberland County Sampling Date: 4/2/2018  
 Applicant/Owner: CWV, LLC; c/o James H. Martin State: VA Sampling Point: DP-8, UPL  
 Investigator(s): Shannon D. Hill Section, Township, Range: Tax Map #44-A-19A  
 Landform (hillslope, terrace, etc.): Hillslope Local relief (concave, convex, none): \_\_\_\_\_ Slope (%): 1-3%  
 Subregion (LRR or MLRA): n/a Lat: 37.565319214 Long: -78.129595931 Datum: \_\_\_\_\_  
 Soil Map Unit Name: Wateree sandy loam NWI classification: UPL  
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes ☒ No \_\_\_\_\_ (If no, explain in Remarks.)  
 Are Vegetation \_\_\_\_\_, Soil \_\_\_\_\_, or Hydrology \_\_\_\_\_ significantly disturbed? Are "Normal Circumstances" present? Yes ☒ No \_\_\_\_\_  
 Are Vegetation \_\_\_\_\_, Soil \_\_\_\_\_, or Hydrology \_\_\_\_\_ naturally problematic? (If needed, explain any answers in Remarks.)

## SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes _____ No <input checked="" type="checkbox"/> Hydric Soil Present? Yes _____ No <input checked="" type="checkbox"/> Wetland Hydrology Present? Yes _____ No <input checked="" type="checkbox"/>	Is the Sampled Area within a Wetland? Yes _____ No <input checked="" type="checkbox"/>
Remarks:  Data point was taken adjacent to flag D-121.	

## HYDROLOGY

<b>Wetland Hydrology Indicators:</b> <u>Primary Indicators (minimum of one is required; check all that apply)</u> <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> True Aquatic Plants (B14) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> Aquatic Fauna (B13)		<u>Secondary Indicators (minimum of two required)</u> <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> Microtopographic Relief (D4) <input type="checkbox"/> FAC-Neutral Test (D5)
<b>Field Observations:</b> Surface Water Present? Yes _____ No <input checked="" type="checkbox"/> Depth (inches): _____ Water Table Present? Yes _____ No <input checked="" type="checkbox"/> Depth (inches): _____ Saturation Present? Yes _____ No <input checked="" type="checkbox"/> Depth (inches): _____ (includes capillary fringe)	Wetland Hydrology Present? Yes _____ No <input checked="" type="checkbox"/>	
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:		
Remarks:		

**VEGETATION (Five Strata) – Use scientific names of plants.**

 Sampling Point: DP-8, UPL

<p><b>Tree Stratum</b> (Plot size: <u>20'x20'</u> )</p> <table style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 40%;"></th> <th style="width: 10%; text-align: center;">Absolute % Cover</th> <th style="width: 10%; text-align: center;">Dominant Species?</th> <th style="width: 10%; text-align: center;">Indicator Status</th> </tr> </thead> <tbody> <tr> <td>1. <u>Liriodendron tulipifera</u></td> <td style="text-align: center;"><u>30%</u></td> <td style="text-align: center;"><u>YES</u></td> <td style="text-align: center;"><u>FACU</u></td> </tr> <tr> <td>2. <u>Pinus taeda</u></td> <td style="text-align: center;"><u>30%</u></td> <td style="text-align: center;"><u>YES</u></td> <td style="text-align: center;"><u>FAC</u></td> </tr> <tr><td>3. _____</td><td></td><td></td><td></td></tr> <tr><td>4. _____</td><td></td><td></td><td></td></tr> <tr><td>5. _____</td><td></td><td></td><td></td></tr> <tr><td>6. _____</td><td></td><td></td><td></td></tr> <tr> <td colspan="4" style="text-align: right;"><u>60%</u> = Total Cover</td> </tr> <tr> <td colspan="4" style="text-align: right;">50% of total cover: <u>30%</u>    20% of total cover: <u>12%</u></td> </tr> <p><b>Sapling Stratum</b> (Plot size: <u>20'x20'</u> )</p> <table style="width: 100%; border-collapse: collapse;"> <tbody> <tr><td>1. <u>Fagus grandifolia</u></td><td style="text-align: center;"><u>20%</u></td><td style="text-align: center;"><u>YES</u></td><td style="text-align: center;"><u>FACU</u></td></tr> <tr><td>2. _____</td><td></td><td></td><td></td></tr> <tr><td>3. _____</td><td></td><td></td><td></td></tr> <tr><td>4. _____</td><td></td><td></td><td></td></tr> <tr><td>5. _____</td><td></td><td></td><td></td></tr> <tr><td>6. _____</td><td></td><td></td><td></td></tr> <tr> <td colspan="4" style="text-align: right;"><u>20%</u> = Total Cover</td> </tr> <tr> <td colspan="4" style="text-align: right;">50% of total cover: <u>10%</u>    20% of total cover: <u>4%</u></td> </tr> <p><b>Shrub Stratum</b> (Plot size: <u>20'x20'</u> )</p> <table style="width: 100%; border-collapse: collapse;"> <tbody> <tr><td>1. _____</td><td></td><td></td><td></td></tr> <tr><td>2. _____</td><td></td><td></td><td></td></tr> <tr><td>3. _____</td><td></td><td></td><td></td></tr> <tr><td>4. _____</td><td></td><td></td><td></td></tr> <tr><td>5. _____</td><td></td><td></td><td></td></tr> <tr><td>6. _____</td><td></td><td></td><td></td></tr> <tr> <td colspan="4" style="text-align: right;"><u>        </u> = Total Cover</td> </tr> <tr> <td colspan="4" style="text-align: right;">50% of total cover: <u>        </u>    20% of total cover: <u>        </u></td> </tr> <p><b>Herb Stratum</b> (Plot size: <u>20'x20'</u> )</p> <table style="width: 100%; border-collapse: collapse;"> <tbody> <tr><td>1. <u>Polystichum acrostichoides</u></td><td style="text-align: center;"><u>20%</u></td><td style="text-align: center;"><u>YES</u></td><td style="text-align: center;"><u>FACU</u></td></tr> <tr><td>2. _____</td><td></td><td></td><td></td></tr> <tr><td>3. _____</td><td></td><td></td><td></td></tr> <tr><td>4. _____</td><td></td><td></td><td></td></tr> <tr><td>5. _____</td><td></td><td></td><td></td></tr> <tr><td>6. _____</td><td></td><td></td><td></td></tr> <tr><td>7. _____</td><td></td><td></td><td></td></tr> <tr><td>8. _____</td><td></td><td></td><td></td></tr> <tr><td>9. _____</td><td></td><td></td><td></td></tr> <tr><td>10. _____</td><td></td><td></td><td></td></tr> <tr><td>11. _____</td><td></td><td></td><td></td></tr> <tr> <td colspan="4" style="text-align: right;"><u>20%</u> = Total Cover</td> </tr> <tr> <td colspan="4" style="text-align: right;">50% of total cover: <u>10%</u>    20% of total cover: <u>4%</u></td> </tr> <p><b>Woody Vine Stratum</b> (Plot size: <u>20'x20'</u> )</p> <table style="width: 100%; border-collapse: collapse;"> <tbody> <tr><td>1. _____</td><td></td><td></td><td></td></tr> <tr><td>2. _____</td><td></td><td></td><td></td></tr> <tr><td>3. _____</td><td></td><td></td><td></td></tr> <tr><td>4. _____</td><td></td><td></td><td></td></tr> <tr><td>5. _____</td><td></td><td></td><td></td></tr> <tr> <td colspan="4" style="text-align: right;"><u>        </u> = Total Cover</td> </tr> <tr> <td colspan="4" style="text-align: right;">50% of total cover: <u>        </u>    20% of total cover: <u>        </u></td> </tr> </tbody> </table> <p>Remarks: (Include photo numbers here or on a separate sheet.)</p> </tbody></table></tbody></table></tbody></table></tbody></table>		Absolute % Cover	Dominant Species?	Indicator Status	1. <u>Liriodendron tulipifera</u>	<u>30%</u>	<u>YES</u>	<u>FACU</u>	2. <u>Pinus taeda</u>	<u>30%</u>	<u>YES</u>	<u>FAC</u>	3. _____				4. _____				5. _____				6. _____				<u>60%</u> = Total Cover				50% of total cover: <u>30%</u> 20% of total cover: <u>12%</u>				1. <u>Fagus grandifolia</u>	<u>20%</u>	<u>YES</u>	<u>FACU</u>	2. _____				3. _____				4. _____				5. _____				6. _____				<u>20%</u> = Total Cover				50% of total cover: <u>10%</u> 20% of total cover: <u>4%</u>				1. _____				2. _____				3. _____				4. _____				5. _____				6. _____				<u>        </u> = Total Cover				50% of total cover: <u>        </u> 20% of total cover: <u>        </u>				1. <u>Polystichum acrostichoides</u>	<u>20%</u>	<u>YES</u>	<u>FACU</u>	2. _____				3. _____				4. _____				5. _____				6. _____				7. _____				8. _____				9. _____				10. _____				11. _____				<u>20%</u> = Total Cover				50% of total cover: <u>10%</u> 20% of total cover: <u>4%</u>				1. _____				2. _____				3. _____				4. _____				5. _____				<u>        </u> = Total Cover				50% of total cover: <u>        </u> 20% of total cover: <u>        </u>				<p><b>Dominance Test worksheet:</b></p> <p>Number of Dominant Species That Are OBL, FACW, or FAC: <u>1</u> (A)</p> <p>Total Number of Dominant Species Across All Strata: <u>4</u> (B)</p> <p>Percent of Dominant Species That Are OBL, FACW, or FAC: <u>25%</u> (A/B)</p> <p><b>Prevalence Index worksheet:</b></p> <table style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 40%;"></th> <th style="width: 10%; text-align: center;">Total % Cover of:</th> <th style="width: 10%;"></th> <th style="width: 10%; text-align: center;">Multiply by:</th> <th style="width: 10%;"></th> </tr> </thead> <tbody> <tr> <td>OBL species</td> <td style="text-align: center;"><u>0</u></td> <td></td> <td style="text-align: center;">x 1 =</td> <td style="text-align: center;"><u>0</u></td> </tr> <tr> <td>FACW species</td> <td style="text-align: center;"><u>0</u></td> <td></td> <td style="text-align: center;">x 2 =</td> <td style="text-align: center;"><u>0</u></td> </tr> <tr> <td>FAC species</td> <td style="text-align: center;"><u>30</u></td> <td></td> <td style="text-align: center;">x 3 =</td> <td style="text-align: center;"><u>90</u></td> </tr> <tr> <td>FACU species</td> <td style="text-align: center;"><u>70</u></td> <td></td> <td style="text-align: center;">x 4 =</td> <td style="text-align: center;"><u>280</u></td> </tr> <tr> <td>UPL species</td> <td style="text-align: center;"><u>0</u></td> <td></td> <td style="text-align: center;">x 5 =</td> <td style="text-align: center;"><u>0</u></td> </tr> <tr> <td>Column Totals:</td> <td style="text-align: center;"><u>100</u></td> <td style="text-align: center;">(A)</td> <td></td> <td style="text-align: center;"><u>370</u> (B)</td> </tr> <tr> <td colspan="5" style="text-align: right;">Prevalence Index = B/A = <u>3.70</u></td> </tr> <p><b>Hydrophytic Vegetation Indicators:</b></p> <p><u>        </u> 1 - Rapid Test for Hydrophytic Vegetation</p> <p><u>        </u> 2 - Dominance Test is &gt;50%</p> <p><u>        </u> 3 - Prevalence Index is ≤3.0<sup>1</sup></p> <p><u>        </u> 4 - Morphological Adaptations<sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)</p> <p><u>        </u> Problematic Hydrophytic Vegetation<sup>1</sup> (Explain)</p> <p><sup>1</sup>Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.</p> <p><b>Definitions of Five Vegetation Strata:</b></p> <p><b>Tree</b> – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).</p> <p><b>Sapling</b> – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.</p> <p><b>Shrub</b> – Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.</p> <p><b>Herb</b> – All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately 3 ft (1 m) in height.</p> <p><b>Woody vine</b> – All woody vines, regardless of height.</p> <p><b>Hydrophytic Vegetation Present?</b>      Yes <u>        </u>      No <u>X</u></p> </tbody></table>		Total % Cover of:		Multiply by:		OBL species	<u>0</u>		x 1 =	<u>0</u>	FACW species	<u>0</u>		x 2 =	<u>0</u>	FAC species	<u>30</u>		x 3 =	<u>90</u>	FACU species	<u>70</u>		x 4 =	<u>280</u>	UPL species	<u>0</u>		x 5 =	<u>0</u>	Column Totals:	<u>100</u>	(A)		<u>370</u> (B)	Prevalence Index = B/A = <u>3.70</u>				
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## SOIL

Sampling Point: DP-8, UPL

[illegible]



# WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

Project/Site: Cumberland County Property City/County: Cumberland County Sampling Date: 4/5/2018  
 Applicant/Owner: CWV, LLC; c/o James H. Martin State: VA Sampling Point: DP-9  
 Investigator(s): Shannon D. Hill Section, Township, Range: Tax Map #  
 Landform (hillslope, terrace, etc.): Floodplain Local relief (concave, convex, none): \_\_\_\_\_ Slope (%): 2-4%  
 Subregion (LRR or MLRA): n/a Lat: 37.5700 Long: -78.1200 Datum: \_\_\_\_\_  
 Soil Map Unit Name: Poindexter-Wedowee complex NWI classification: R3

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ☒ No \_\_\_\_\_ (If no, explain in Remarks.)  
 Are Vegetation \_\_\_\_\_, Soil \_\_\_\_\_, or Hydrology \_\_\_\_\_ significantly disturbed? Are "Normal Circumstances" present? Yes ☒ No \_\_\_\_\_  
 Are Vegetation \_\_\_\_\_, Soil \_\_\_\_\_, or Hydrology \_\_\_\_\_ naturally problematic? (If needed, explain any answers in Remarks.)

## SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No _____ Hydric Soil Present? Yes <input checked="" type="checkbox"/> No _____ Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No _____	Is the Sampled Area within a Wetland? Yes <input checked="" type="checkbox"/> No _____
Remarks:  Data point was taken next to flag E-389.	

## HYDROLOGY

<b>Wetland Hydrology Indicators:</b> <u>Primary Indicators (minimum of one is required; check all that apply)</u> <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> True Aquatic Plants (B14) <input checked="" type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input checked="" type="checkbox"/> Saturation (A3) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Other (Explain in Remarks) <input checked="" type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input checked="" type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> Aquatic Fauna (B13)		<u>Secondary Indicators (minimum of two required)</u> <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <input checked="" type="checkbox"/> Drainage Patterns (B10) <input checked="" type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input checked="" type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> Microtopographic Relief (D4) <input type="checkbox"/> FAC-Neutral Test (D5)
<b>Field Observations:</b> Surface Water Present? Yes _____ No <input checked="" type="checkbox"/> Depth (inches): _____ Water Table Present? Yes <input checked="" type="checkbox"/> No _____ Depth (inches): <u>5"</u> Saturation Present? Yes _____ No <input checked="" type="checkbox"/> Depth (inches): _____ (includes capillary fringe)	Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No _____	
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:		
Remarks:		

**VEGETATION (Five Strata) – Use scientific names of plants.**

 Sampling Point: DP-9

Tree Stratum (Plot size: <u>20'x20'</u> )	Absolute % Cover	Dominant Species?	Indicator Status	
1. <u>Carpinus caroliniana</u>	25%	YES	FAC	<b>Dominance Test worksheet:</b> Number of Dominant Species That Are OBL, FACW, or FAC: <u>5</u> (A)  Total Number of Dominant Species Across All Strata: <u>5</u> (B)  Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100%</u> (A/B)
2. <u>Betula nigra</u>	25%	YES	FAC	
3. _____				
4. _____				
5. _____				
6. _____				
50% = Total Cover				<b>Prevalence Index worksheet:</b> Total % Cover of: _____ Multiply by: OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: _____ (A) _____ (B)  Prevalence Index = B/A = _____
50% of total cover: <u>25%</u> 20% of total cover: <u>10%</u>				
<b>Sapling Stratum</b> (Plot size: <u>20'x20'</u> )				
1. <u>Liquidambar styraciflua</u>	20%	YES	FAC	
2. <u>Acer rubrum</u>	15%	YES	FAC	
3. _____				
35% = Total Cover				
50% of total cover: <u>17.5%</u> 20% of total cover: <u>7%</u>				
<b>Shrub Stratum</b> (Plot size: <u>20'x20'</u> )				
1. _____				<b>Hydrophytic Vegetation Indicators:</b> <input type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation <input checked="" type="checkbox"/> 2 - Dominance Test is >50% <input type="checkbox"/> 3 - Prevalence Index is ≤3.0 <sup>1</sup> <input type="checkbox"/> 4 - Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)  <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
2. _____				
3. _____				
4. _____				
5. _____				
6. _____				
_____ = Total Cover				
50% of total cover: _____ 20% of total cover: _____				
<b>Herb Stratum</b> (Plot size: <u>20'x20'</u> )				
1. <u>Juncus effusus</u>	15%	YES	FACW	<b>Definitions of Five Vegetation Strata:</b>  <b>Tree</b> – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).  <b>Sapling</b> – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.  <b>Shrub</b> – Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.  <b>Herb</b> – All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately 3 ft (1 m) in height.  <b>Woody vine</b> – All woody vines, regardless of height.
2. _____				
3. _____				
4. _____				
5. _____				
6. _____				
15% = Total Cover				
50% of total cover: <u>7.5%</u> 20% of total cover: <u>3%</u>				
<b>Woody Vine Stratum</b> (Plot size: <u>20'x20'</u> )				
1. _____				<b>Hydrophytic Vegetation Present?</b> Yes <u>X</u> No _____
2. _____				
3. _____				
4. _____				
5. _____				
6. _____				
_____ = Total Cover				
50% of total cover: _____ 20% of total cover: _____				
Remarks: (Include photo numbers here or on a separate sheet.)				

## SOIL

Sampling Point: DP-9

[illegible]

## WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

Project/Site: Cumberland County Property City/County: Cumberland County Sampling Date: 4/2/2018  
Applicant/Owner: CWV, LLC; c/o James H. Martin State: VA Sampling Point: DP-9, UPL  
Investigator(s): Hannah L. Miller, Robert Goodwin Section, Township, Range: Tax Map #45-A-1  
Landform (hillslope, terrace, etc.): Hillslope Local relief (concave, convex, none): \_\_\_\_\_ Slope (%): 2-4%  
Subregion (LRR or MLRA): n/a Lat: 37.5700 Long: -78.1200 Datum: \_\_\_\_\_  
Soil Map Unit Name: Poindexter-Wedowee complex NWI classification: UPL  
Are climatic / hydrologic conditions on the site typical for this time of year? Yes ☒ No \_\_\_\_\_ (If no, explain in Remarks.)  
Are Vegetation \_\_\_\_\_, Soil \_\_\_\_\_, or Hydrology \_\_\_\_\_ significantly disturbed? Are "Normal Circumstances" present? Yes ☒ No \_\_\_\_\_  
Are Vegetation \_\_\_\_\_, Soil \_\_\_\_\_, or Hydrology \_\_\_\_\_ naturally problematic? (If needed, explain any answers in Remarks.)

### SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes _____ No <input checked="" type="checkbox"/>	Is the Sampled Area within a Wetland? Yes _____ No <input checked="" type="checkbox"/>
Hydric Soil Present? Yes _____ No <input checked="" type="checkbox"/>	
Wetland Hydrology Present? Yes _____ No <input checked="" type="checkbox"/>	
Remarks:  Data point was taken adjacent to flag E-389.	

### HYDROLOGY

<b>Wetland Hydrology Indicators:</b>		<b>Secondary Indicators (minimum of two required)</b>
<u>Primary Indicators (minimum of one is required; check all that apply)</u>		
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> True Aquatic Plants (B14)	<input type="checkbox"/> Surface Soil Cracks (B6)
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)
<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3)	<input type="checkbox"/> Drainage Patterns (B10)
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Moss Trim Lines (B16)
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	<input type="checkbox"/> Dry-Season Water Table (C2)
<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Thin Muck Surface (C7)	<input type="checkbox"/> Crayfish Burrows (C8)
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)
<input type="checkbox"/> Iron Deposits (B5)		<input type="checkbox"/> Stunted or Stressed Plants (D1)
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)		<input type="checkbox"/> Geomorphic Position (D2)
<input type="checkbox"/> Water-Stained Leaves (B9)		<input type="checkbox"/> Shallow Aquitard (D3)
<input type="checkbox"/> Aquatic Fauna (B13)		<input type="checkbox"/> Microtopographic Relief (D4)
		<input type="checkbox"/> FAC-Neutral Test (D5)
<b>Field Observations:</b>		
Surface Water Present? Yes _____ No <input checked="" type="checkbox"/>	Depth (inches): _____	
Water Table Present? Yes _____ No <input checked="" type="checkbox"/>	Depth (inches): _____	
Saturation Present? Yes _____ No <input checked="" type="checkbox"/>	Depth (inches): _____	
(includes capillary fringe)		<b>Wetland Hydrology Present? Yes _____ No <input checked="" type="checkbox"/></b>
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:		
Remarks:		

**VEGETATION (Five Strata) – Use scientific names of plants.**

 Sampling Point: DP-9, UPL

Tree Stratum (Plot size: <u>20'x20'</u> )	Absolute % Cover	Dominant Species?	Indicator Status															
1. <u>Liriodendron tulipifera</u>	40%	YES	FACU	<b>Dominance Test worksheet:</b> Number of Dominant Species That Are OBL, FACW, or FAC: <u>1</u> (A)  Total Number of Dominant Species Across All Strata: <u>5</u> (B)  Percent of Dominant Species That Are OBL, FACW, or FAC: <u>20%</u> (A/B)														
2. <u>Pinus taeda</u>	10%	YES	FAC															
3. _____																		
4. _____																		
5. _____																		
6. _____																		
50% = Total Cover				<b>Prevalence Index worksheet:</b> <table style="width: 100%;"> <tr> <th style="width: 50%;">Total % Cover of:</th> <th style="width: 50%;">Multiply by:</th> </tr> <tr> <td>OBL species <u>0</u></td> <td>x 1 = <u>0</u></td> </tr> <tr> <td>FACW species <u>0</u></td> <td>x 2 = <u>0</u></td> </tr> <tr> <td>FAC species <u>10</u></td> <td>x 3 = <u>30</u></td> </tr> <tr> <td>FACU species <u>90</u></td> <td>x 4 = <u>360</u></td> </tr> <tr> <td>UPL species <u>0</u></td> <td>x 5 = <u>0</u></td> </tr> <tr> <td>Column Totals: <u>100</u> (A)</td> <td><u>390</u> (B)</td> </tr> </table> Prevalence Index = B/A = <u>3.90</u>	Total % Cover of:	Multiply by:	OBL species <u>0</u>	x 1 = <u>0</u>	FACW species <u>0</u>	x 2 = <u>0</u>	FAC species <u>10</u>	x 3 = <u>30</u>	FACU species <u>90</u>	x 4 = <u>360</u>	UPL species <u>0</u>	x 5 = <u>0</u>	Column Totals: <u>100</u> (A)	<u>390</u> (B)
Total % Cover of:	Multiply by:																	
OBL species <u>0</u>	x 1 = <u>0</u>																	
FACW species <u>0</u>	x 2 = <u>0</u>																	
FAC species <u>10</u>	x 3 = <u>30</u>																	
FACU species <u>90</u>	x 4 = <u>360</u>																	
UPL species <u>0</u>	x 5 = <u>0</u>																	
Column Totals: <u>100</u> (A)	<u>390</u> (B)																	
50% of total cover: <u>25%</u> 20% of total cover: <u>10%</u>																		
<b>Sapling Stratum</b> (Plot size: <u>20'x20'</u> )																		
1. <u>Fagus grandifolia</u>	20%	YES	FACU															
2. <u>Juniperus virginiana</u>	20%	YES	FACU															
3. _____																		
4. _____																		
5. _____																		
6. _____																		
40% = Total Cover																		
50% of total cover: <u>20%</u> 20% of total cover: <u>8%</u>																		
<b>Shrub Stratum</b> (Plot size: <u>20'x20'</u> )																		
1. _____																		
2. _____																		
3. _____																		
4. _____																		
5. _____																		
6. _____																		
_____ = Total Cover																		
50% of total cover: _____    20% of total cover: _____																		
<b>Herb Stratum</b> (Plot size: <u>20'x20'</u> )																		
1. <u>Polystichum acrostichoides</u>	10%	YES	FACU															
2. _____																		
3. _____																		
4. _____																		
5. _____																		
6. _____																		
7. _____																		
8. _____																		
9. _____																		
10. _____																		
11. _____																		
10% = Total Cover																		
50% of total cover: <u>5%</u> 20% of total cover: <u>2%</u>																		
<b>Woody Vine Stratum</b> (Plot size: <u>20'x20'</u> )																		
1. _____																		
2. _____																		
3. _____																		
4. _____																		
5. _____																		
_____ = Total Cover																		
50% of total cover: _____    20% of total cover: _____																		
<b>Hydrophytic Vegetation Present?</b> Yes _____ No <u>X</u>																		
Remarks: (Include photo numbers here or on a separate sheet.)																		

## SOIL

Sampling Point: DP-9, UPL

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)								
Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>		
0-6	10YR 4/3	100					Sandy Loam	
6-18	10YR 6/4	100					Sandy Loam	

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.

<sup>2</sup>Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:		Indicators for Problematic Hydric Soils³:	
<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Dark Surface (S7)	<input type="checkbox"/> 2 cm Muck (A10) ( <b>MLRA 147</b> )	
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Polyvalue Below Surface (S8) ( <b>MLRA 147, 148</b> )	<input type="checkbox"/> Coast Prairie Redox (A16)	
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Thin Dark Surface (S9) ( <b>MLRA 147, 148</b> )	<input type="checkbox"/>	
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Piedmont Floodplain Soils (F19)	
<input type="checkbox"/> Stratified Layers (A5)	<input type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/>	
<input type="checkbox"/> 2 cm Muck (A10) ( <b>LRR N</b> )	<input type="checkbox"/> Redox Dark Surface (F6)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)	
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Dark Surface (F7)	<input type="checkbox"/> Other (Explain in Remarks)	
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Redox Depressions (F8)		
<input type="checkbox"/> Sandy Mucky Mineral (S1) ( <b>LRR N,</b>	<input type="checkbox"/> Iron-Manganese Masses (F12) ( <b>LRR N,</b>		
<input type="checkbox"/> <b>MLRA 147, 148</b> )	<input type="checkbox"/> <b>MLRA 136</b> )		
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Umbric Surface (F13) ( <b>MLRA 136, 122</b> )		
<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) ( <b>MLRA 148</b> )		
<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Red Parent Material (F21) ( <b>MLRA 127, 147</b> )		

**Restrictive Layer (if observed):**

Type: \_\_\_\_\_

Depth (inches): \_\_\_\_\_

Hydric Soil Present?

Yes \_\_\_\_\_ No ☒

Remarks:

# WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

Project/Site: Cumberland County Property City/County: Cumberland County Sampling Date: 4/9/2018  
 Applicant/Owner: CWV, LLC; c/o James H. Martin State: VA Sampling Point: DP-10  
 Investigator(s): Hannah L. Miller Section, Township, Range: Tax Map # 45-A-1  
 Landform (hillslope, terrace, etc.): Floodplain Local relief (concave, convex, none): \_\_\_\_\_ Slope (%): 1-3%  
 Subregion (LRR or MLRA): n/a Lat: 37.571944626 Long: -78.121921343 Datum: \_\_\_\_\_  
 Soil Map Unit Name: Chewacla and Monocan soils/Poindexter Wedowee complex NWI classification: PAB  
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes ☒ No \_\_\_\_\_ (If no, explain in Remarks.)  
 Are Vegetation \_\_\_\_\_, Soil \_\_\_\_\_, or Hydrology \_\_\_\_\_ significantly disturbed? Are "Normal Circumstances" present? Yes ☒ No \_\_\_\_\_  
 Are Vegetation \_\_\_\_\_, Soil \_\_\_\_\_, or Hydrology \_\_\_\_\_ naturally problematic? (If needed, explain any answers in Remarks.)

## SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No _____ Hydric Soil Present? Yes <input checked="" type="checkbox"/> No _____ Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No _____	Is the Sampled Area within a Wetland? Yes <input checked="" type="checkbox"/> No _____
Remarks:  Data point was taken next to flag E-184.	

## HYDROLOGY

<b>Wetland Hydrology Indicators:</b> <u>Primary Indicators (minimum of one is required; check all that apply)</u> <input checked="" type="checkbox"/> Surface Water (A1) _____ True Aquatic Plants (B14) <input checked="" type="checkbox"/> High Water Table (A2) _____ Hydrogen Sulfide Odor (C1) <input checked="" type="checkbox"/> Saturation (A3) _____ Oxidized Rhizospheres on Living Roots (C3) <input checked="" type="checkbox"/> Water Marks (B1) _____ Presence of Reduced Iron (C4) _____ Sediment Deposits (B2) _____ Recent Iron Reduction in Tilled Soils (C6) _____ Drift Deposits (B3) _____ Thin Muck Surface (C7) _____ Algal Mat or Crust (B4) _____ Other (Explain in Remarks) _____ Iron Deposits (B5) _____ Inundation Visible on Aerial Imagery (B7) <input checked="" type="checkbox"/> Water-Stained Leaves (B9) _____ Aquatic Fauna (B13)		<u>Secondary Indicators (minimum of two required)</u> _____ Surface Soil Cracks (B6) _____ Sparsely Vegetated Concave Surface (B8) <input checked="" type="checkbox"/> Drainage Patterns (B10) <input checked="" type="checkbox"/> Moss Trim Lines (B16) _____ Dry-Season Water Table (C2) _____ Crayfish Burrows (C8) _____ Saturation Visible on Aerial Imagery (C9) _____ Stunted or Stressed Plants (D1) <input checked="" type="checkbox"/> Geomorphic Position (D2) _____ Shallow Aquitard (D3) _____ Microtopographic Relief (D4) _____ FAC-Neutral Test (D5)
<b>Field Observations:</b> Surface Water Present? Yes <input checked="" type="checkbox"/> No _____ Depth (inches): <u>0"</u> Water Table Present? Yes <input checked="" type="checkbox"/> No _____ Depth (inches): <u>6"</u> Saturation Present? Yes <input checked="" type="checkbox"/> No _____ Depth (inches): <u>2"</u> (includes capillary fringe)	Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No _____	
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:		
Remarks:		

**VEGETATION (Five Strata) – Use scientific names of plants.**

 Sampling Point: DP-10

<p><b>Tree Stratum</b> (Plot size: <u>20'x20'</u> )</p> <table style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 40%;"></th> <th style="width: 15%; text-align: center;">Absolute % Cover</th> <th style="width: 15%; text-align: center;">Dominant Species?</th> <th style="width: 30%; text-align: center;">Indicator Status</th> </tr> </thead> <tbody> <tr><td>1. _____</td><td>_____</td><td>_____</td><td>_____</td></tr> <tr><td>2. _____</td><td>_____</td><td>_____</td><td>_____</td></tr> <tr><td>3. _____</td><td>_____</td><td>_____</td><td>_____</td></tr> <tr><td>4. _____</td><td>_____</td><td>_____</td><td>_____</td></tr> <tr><td>5. _____</td><td>_____</td><td>_____</td><td>_____</td></tr> <tr><td>6. _____</td><td>_____</td><td>_____</td><td>_____</td></tr> <tr> <td colspan="2" style="text-align: right;">_____ = Total Cover</td> <td colspan="2"></td> </tr> <tr> <td colspan="2" style="text-align: right;">50% of total cover: _____</td> <td colspan="2" style="text-align: right;">20% of total cover: _____</td> </tr> </tbody> </table> <p><b>Sapling Stratum</b> (Plot size: <u>20'x20'</u> )</p> <table style="width: 100%; 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(7.6 cm) or larger in diameter at breast height (DBH).</p> <p><b>Sapling</b> – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.</p> <p><b>Shrub</b> – Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.</p> <p><b>Herb</b> – All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately 3 ft (1 m) in height.</p> <p><b>Woody vine</b> – All woody vines, regardless of height.</p> <p><b>Hydrophytic Vegetation Present?</b> Yes <u>X</u> No _____</p>	Total % Cover of:	Multiply by:	OBL species _____	x 1 = _____	FACW species _____	x 2 = _____	FAC species _____	x 3 = _____	FACU species _____	x 4 = _____	UPL species _____	x 5 = _____	Column Totals: _____ (A)	_____ (B)	Prevalence Index = B/A = _____	
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Remarks: (Include photo numbers here or on a separate sheet.)  
  
 Large, broad low lying area next to a toe of slope feature resulting in a saturated floodplain.



## SOIL

Sampling Point: DP-10

[illegible]

# WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

Project/Site: Cumberland County Property City/County: Cumberland County Sampling Date: 4/9/2018  
 Applicant/Owner: CWV, LLC; c/o James H. Martin State: VA Sampling Point: DP-10, UPL  
 Investigator(s): Shannon D. Hill, Robert Goodwin Section, Township, Range: Tax Map #45-A-1  
 Landform (hillslope, terrace, etc.): Hillslope Local relief (concave, convex, none): \_\_\_\_\_ Slope (%): 4-6%  
 Subregion (LRR or MLRA): n/a Lat: 37.571944626 Long: -78.812192134 Datum: \_\_\_\_\_  
 Soil Map Unit Name: Poindexter Wedowee complex NWI classification: UPL  
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes ☒ No \_\_\_\_\_ (If no, explain in Remarks.)  
 Are Vegetation \_\_\_\_\_, Soil \_\_\_\_\_, or Hydrology \_\_\_\_\_ significantly disturbed? Are "Normal Circumstances" present? Yes ☒ No \_\_\_\_\_  
 Are Vegetation \_\_\_\_\_, Soil \_\_\_\_\_, or Hydrology \_\_\_\_\_ naturally problematic? (If needed, explain any answers in Remarks.)

## SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes _____ No <input checked="" type="checkbox"/>	Is the Sampled Area within a Wetland? Yes _____ No <input checked="" type="checkbox"/>
Hydric Soil Present? Yes _____ No <input checked="" type="checkbox"/>	
Wetland Hydrology Present? Yes _____ No <input checked="" type="checkbox"/>	
Remarks:  Data point was taken adjacent to flag E-184.	

## HYDROLOGY

<b>Wetland Hydrology Indicators:</b> <u>Primary Indicators (minimum of one is required; check all that apply)</u> <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> True Aquatic Plants (B14) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> Aquatic Fauna (B13)		<u>Secondary Indicators (minimum of two required)</u> <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> Microtopographic Relief (D4) <input type="checkbox"/> FAC-Neutral Test (D5)
<b>Field Observations:</b> Surface Water Present? Yes _____ No <input checked="" type="checkbox"/> Depth (inches): _____ Water Table Present? Yes _____ No <input checked="" type="checkbox"/> Depth (inches): _____ Saturation Present? Yes _____ No <input checked="" type="checkbox"/> Depth (inches): _____ (includes capillary fringe)	<b>Wetland Hydrology Present?</b> Yes _____ No <input checked="" type="checkbox"/>	
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:		
Remarks:		

**VEGETATION (Five Strata) – Use scientific names of plants.**

 Sampling Point: DP-10, UPL

<p><b>Tree Stratum</b> (Plot size: <u>20'x20'</u> )</p> <table style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 40%;"></th> <th style="width: 10%; text-align: center;">Absolute % Cover</th> <th style="width: 10%; text-align: center;">Dominant Species?</th> <th style="width: 10%; text-align: center;">Indicator Status</th> </tr> </thead> <tbody> <tr><td>1. <u>Liriodendron tulipifera</u></td><td style="text-align: center;"><u>20%</u></td><td style="text-align: center;"><u>YES</u></td><td style="text-align: center;"><u>FACU</u></td></tr> <tr><td>2. <u>Fagus grandifolia</u></td><td style="text-align: center;"><u>30%</u></td><td style="text-align: center;"><u>YES</u></td><td style="text-align: center;"><u>FACU</u></td></tr> <tr><td>3. _____</td><td></td><td></td><td></td></tr> <tr><td>4. _____</td><td></td><td></td><td></td></tr> <tr><td>5. _____</td><td></td><td></td><td></td></tr> <tr><td>6. _____</td><td></td><td></td><td></td></tr> <tr><td colspan="4" style="text-align: right;"><u>50%</u> = Total Cover</td></tr> <tr><td colspan="4">50% of total cover: <u>25%</u> 20% of total cover: <u>10%</u></td></tr> </tbody> </table> <p><b>Sapling Stratum</b> (Plot size: <u>20'x20'</u> )</p> <table style="width: 100%; border-collapse: collapse;"> <tbody> <tr><td>1. <u>Ilex opaca</u></td><td style="text-align: center;"><u>20%</u></td><td style="text-align: center;"><u>YES</u></td><td style="text-align: center;"><u>FAC</u></td></tr> <tr><td>2. _____</td><td></td><td></td><td></td></tr> <tr><td>3. _____</td><td></td><td></td><td></td></tr> <tr><td>4. _____</td><td></td><td></td><td></td></tr> <tr><td>5. _____</td><td></td><td></td><td></td></tr> <tr><td>6. _____</td><td></td><td></td><td></td></tr> <tr><td colspan="4" style="text-align: right;"><u>20%</u> = Total Cover</td></tr> <tr><td colspan="4">50% of total cover: <u>10%</u> 20% of total cover: <u>4%</u></td></tr> </tbody> </table> <p><b>Shrub Stratum</b> (Plot size: <u>20'x20'</u> )</p> <table style="width: 100%; border-collapse: collapse;"> <tbody> <tr><td>1. _____</td><td></td><td></td><td></td></tr> <tr><td>2. _____</td><td></td><td></td><td></td></tr> <tr><td>3. _____</td><td></td><td></td><td></td></tr> <tr><td>4. _____</td><td></td><td></td><td></td></tr> <tr><td>5. _____</td><td></td><td></td><td></td></tr> <tr><td>6. _____</td><td></td><td></td><td></td></tr> <tr><td colspan="4" style="text-align: right;"><u>      </u> = Total Cover</td></tr> <tr><td colspan="4">50% of total cover: <u>      </u> 20% of total cover: <u>      </u></td></tr> </tbody> </table> <p><b>Herb Stratum</b> (Plot size: <u>20'x20'</u> )</p> <table style="width: 100%; border-collapse: collapse;"> <tbody> <tr><td>1. <u>Polystichum acrostichoides</u></td><td style="text-align: center;"><u>20%</u></td><td style="text-align: center;"><u>YES</u></td><td style="text-align: center;"><u>FACU</u></td></tr> <tr><td>2. _____</td><td></td><td></td><td></td></tr> <tr><td>3. _____</td><td></td><td></td><td></td></tr> <tr><td>4. _____</td><td></td><td></td><td></td></tr> <tr><td>5. _____</td><td></td><td></td><td></td></tr> <tr><td>6. _____</td><td></td><td></td><td></td></tr> <tr><td>7. _____</td><td></td><td></td><td></td></tr> <tr><td>8. _____</td><td></td><td></td><td></td></tr> <tr><td>9. _____</td><td></td><td></td><td></td></tr> <tr><td>10. _____</td><td></td><td></td><td></td></tr> <tr><td>11. _____</td><td></td><td></td><td></td></tr> <tr><td colspan="4" style="text-align: right;"><u>20%</u> = Total Cover</td></tr> <tr><td colspan="4">50% of total cover: <u>10%</u> 20% of total cover: <u>4%</u></td></tr> </tbody> </table> <p><b>Woody Vine Stratum</b> (Plot size: <u>20'x20'</u> )</p> <table style="width: 100%; border-collapse: collapse;"> <tbody> <tr><td>1. <u>Smilax rotundifolia</u></td><td style="text-align: center;"><u>10%</u></td><td style="text-align: center;"><u>YES</u></td><td style="text-align: center;"><u>FAC</u></td></tr> <tr><td>2. _____</td><td></td><td></td><td></td></tr> <tr><td>3. _____</td><td></td><td></td><td></td></tr> <tr><td>4. _____</td><td></td><td></td><td></td></tr> <tr><td>5. _____</td><td></td><td></td><td></td></tr> <tr><td colspan="4" style="text-align: right;"><u>10%</u> = Total Cover</td></tr> <tr><td colspan="4">50% of total cover: <u>5%</u> 20% of total cover: <u>2%</u></td></tr> </tbody> </table>		Absolute % Cover	Dominant Species?	Indicator Status	1. <u>Liriodendron tulipifera</u>	<u>20%</u>	<u>YES</u>	<u>FACU</u>	2. <u>Fagus grandifolia</u>	<u>30%</u>	<u>YES</u>	<u>FACU</u>	3. _____				4. _____				5. _____				6. _____				<u>50%</u> = Total Cover				50% of total cover: <u>25%</u> 20% of total cover: <u>10%</u>				1. <u>Ilex opaca</u>	<u>20%</u>	<u>YES</u>	<u>FAC</u>	2. _____				3. _____				4. _____				5. _____				6. _____				<u>20%</u> = Total Cover				50% of total cover: <u>10%</u> 20% of total cover: <u>4%</u>				1. _____				2. _____				3. _____				4. _____				5. _____				6. _____				<u>      </u> = Total Cover				50% of total cover: <u>      </u> 20% of total cover: <u>      </u>				1. <u>Polystichum acrostichoides</u>	<u>20%</u>	<u>YES</u>	<u>FACU</u>	2. _____				3. _____				4. _____				5. _____				6. _____				7. _____				8. _____				9. _____				10. _____				11. _____				<u>20%</u> = Total Cover				50% of total cover: <u>10%</u> 20% of total cover: <u>4%</u>				1. <u>Smilax rotundifolia</u>	<u>10%</u>	<u>YES</u>	<u>FAC</u>	2. _____				3. _____				4. _____				5. _____				<u>10%</u> = Total Cover				50% of total cover: <u>5%</u> 20% of total cover: <u>2%</u>				<p><b>Dominance Test worksheet:</b></p> <p>Number of Dominant Species That Are OBL, FACW, or FAC: <u>2</u> (A)</p> <p>Total Number of Dominant Species Across All Strata: <u>5</u> (B)</p> <p>Percent of Dominant Species That Are OBL, FACW, or FAC: <u>40%</u> (A/B)</p> <p><b>Prevalence Index worksheet:</b></p> <table style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 40%;"></th> <th style="width: 10%; text-align: center;">Total % Cover of:</th> <th style="width: 10%; text-align: center;">Multiply by:</th> <th style="width: 10%;"></th> <th style="width: 10%;"></th> </tr> </thead> <tbody> <tr><td>OBL species</td><td style="text-align: center;"><u>0</u></td><td style="text-align: center;">x 1 =</td><td style="text-align: center;"><u>0</u></td><td></td></tr> <tr><td>FACW species</td><td style="text-align: center;"><u>0</u></td><td style="text-align: center;">x 2 =</td><td style="text-align: center;"><u>0</u></td><td></td></tr> <tr><td>FAC species</td><td style="text-align: center;"><u>30</u></td><td style="text-align: center;">x 3 =</td><td style="text-align: center;"><u>90</u></td><td></td></tr> <tr><td>FACU species</td><td style="text-align: center;"><u>70</u></td><td style="text-align: center;">x 4 =</td><td style="text-align: center;"><u>280</u></td><td></td></tr> <tr><td>UPL species</td><td style="text-align: center;"><u>0</u></td><td style="text-align: center;">x 5 =</td><td style="text-align: center;"><u>0</u></td><td></td></tr> <tr><td>Column Totals:</td><td style="text-align: center;"><u>100</u></td><td style="text-align: center;">(A)</td><td style="text-align: center;"><u>370</u></td><td style="text-align: center;">(B)</td></tr> </tbody> </table> <p style="text-align: right;">Prevalence Index = B/A = <u>3.70</u></p> <p><b>Hydrophytic Vegetation Indicators:</b></p> <p><u>      </u> 1 - Rapid Test for Hydrophytic Vegetation</p> <p><u>      </u> 2 - Dominance Test is &gt;50%</p> <p><u>      </u> 3 - Prevalence Index is ≤3.0<sup>1</sup></p> <p><u>      </u> 4 - Morphological Adaptations<sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)</p> <p><u>      </u> Problematic Hydrophytic Vegetation<sup>1</sup> (Explain)</p> <p><small><sup>1</sup>Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.</small></p> <p><b>Definitions of Five Vegetation Strata:</b></p> <p><b>Tree</b> – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).</p> <p><b>Sapling</b> – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.</p> <p><b>Shrub</b> – Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.</p> <p><b>Herb</b> – All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately 3 ft (1 m) in height.</p> <p><b>Woody vine</b> – All woody vines, regardless of height.</p> <p><b>Hydrophytic Vegetation Present?</b> Yes <u>      </u> No <u>X</u></p>		Total % Cover of:	Multiply by:			OBL species	<u>0</u>	x 1 =	<u>0</u>		FACW species	<u>0</u>	x 2 =	<u>0</u>		FAC species	<u>30</u>	x 3 =	<u>90</u>		FACU species	<u>70</u>	x 4 =	<u>280</u>		UPL species	<u>0</u>	x 5 =	<u>0</u>		Column Totals:	<u>100</u>	(A)	<u>370</u>	(B)
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## SOIL

Sampling Point: DP-10, UPL

[illegible]

# WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

Project/Site: Cumberland County Property City/County: Cumberland County Sampling Date: 4/9/2018  
 Applicant/Owner: CWV, LLC; c/o James H. Martin State: VA Sampling Point: DP-11  
 Investigator(s): Hannah L. Miller Section, Township, Range: Tax Map # 37-A-69  
 Landform (hillslope, terrace, etc.): Floodplain Local relief (concave, convex, none): \_\_\_\_\_ Slope (%): 0-2%  
 Subregion (LRR or MLRA): n/a Lat: 37.570448660 Long: -78.125199141 Datum: \_\_\_\_\_  
 Soil Map Unit Name: Poindexter-Wedowee complex NWI classification: PFO  
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes ☒ No \_\_\_\_\_ (If no, explain in Remarks.)  
 Are Vegetation \_\_\_\_\_, Soil \_\_\_\_\_, or Hydrology \_\_\_\_\_ significantly disturbed? Are "Normal Circumstances" present? Yes ☒ No \_\_\_\_\_  
 Are Vegetation \_\_\_\_\_, Soil \_\_\_\_\_, or Hydrology \_\_\_\_\_ naturally problematic? (If needed, explain any answers in Remarks.)

## SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No _____ Hydric Soil Present? Yes <input checked="" type="checkbox"/> No _____ Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No _____	Is the Sampled Area within a Wetland? Yes <input checked="" type="checkbox"/> No _____
Remarks:  Data point was taken next to flag F-28.	

## HYDROLOGY

<b>Wetland Hydrology Indicators:</b> <u>Primary Indicators (minimum of one is required; check all that apply)</u> <input checked="" type="checkbox"/> Surface Water (A1) _____ True Aquatic Plants (B14) <input checked="" type="checkbox"/> High Water Table (A2) _____ Hydrogen Sulfide Odor (C1) <input checked="" type="checkbox"/> Saturation (A3) _____ Oxidized Rhizospheres on Living Roots (C3) <input checked="" type="checkbox"/> Water Marks (B1) _____ Presence of Reduced Iron (C4) _____ Sediment Deposits (B2) _____ Recent Iron Reduction in Tilled Soils (C6) _____ Drift Deposits (B3) _____ Thin Muck Surface (C7) _____ Algal Mat or Crust (B4) _____ Other (Explain in Remarks) <input checked="" type="checkbox"/> Iron Deposits (B5) _____ Inundation Visible on Aerial Imagery (B7) <input checked="" type="checkbox"/> Water-Stained Leaves (B9) _____ Aquatic Fauna (B13)		<u>Secondary Indicators (minimum of two required)</u> _____ Surface Soil Cracks (B6) _____ Sparsely Vegetated Concave Surface (B8) <input checked="" type="checkbox"/> Drainage Patterns (B10) <input checked="" type="checkbox"/> Moss Trim Lines (B16) _____ Dry-Season Water Table (C2) _____ Crayfish Burrows (C8) _____ Saturation Visible on Aerial Imagery (C9) _____ Stunted or Stressed Plants (D1) <input checked="" type="checkbox"/> Geomorphic Position (D2) _____ Shallow Aquitard (D3) _____ Microtopographic Relief (D4) _____ FAC-Neutral Test (D5)
<b>Field Observations:</b> Surface Water Present? Yes <input checked="" type="checkbox"/> No _____ Depth (inches): <u>0"</u> Water Table Present? Yes <input checked="" type="checkbox"/> No _____ Depth (inches): <u>4"</u> Saturation Present? Yes <input checked="" type="checkbox"/> No _____ Depth (inches): <u>4"</u> (includes capillary fringe)	Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No _____	
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:		
Remarks:		

**VEGETATION (Five Strata) – Use scientific names of plants.**

 Sampling Point: DP-11

Tree Stratum (Plot size: <u>20'x20'</u> )	Absolute % Cover	Dominant Species?	Indicator Status	
1. <u>Liquidambar styraciflua</u>	<u>20%</u>	<u>YES</u>	<u>FAC</u>	<b>Dominance Test worksheet:</b> Number of Dominant Species That Are OBL, FACW, or FAC: <u>6</u> (A)  Total Number of Dominant Species Across All Strata: <u>6</u> (B)  Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100%</u> (A/B)
2. <u>Acer rubrum</u>	<u>20%</u>	<u>YES</u>	<u>FAC</u>	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
<u>40%</u> = Total Cover 50% of total cover: <u>20%</u> 20% of total cover: <u>8%</u>				<b>Prevalence Index worksheet:</b> <u>        </u> Total % Cover of:                      Multiply by: OBL species                      x 1 = <u>        </u> FACW species                      x 2 = <u>        </u> FAC species                      x 3 = <u>        </u> FACU species                      x 4 = <u>        </u> UPL species                      x 5 = <u>        </u> Column Totals:                      (A)                      (B)  Prevalence Index = B/A = <u>        </u>
<b>Sapling Stratum</b> (Plot size: <u>20'x20'</u> )				
1. <u>Lindera benzoin</u>	<u>20%</u>	<u>YES</u>	<u>FAC</u>	
2. <u>Ilex opaca</u>	<u>15%</u>	<u>YES</u>	<u>FAC</u>	
3. <u>Carpinus caroliniana</u>	<u>10%</u>	<u>YES</u>	<u>FAC</u>	
4. _____	_____	_____	_____	
<u>45%</u> = Total Cover 50% of total cover: <u>22.5%</u> 20% of total cover: <u>9%</u>				
<b>Shrub Stratum</b> (Plot size: <u>20'x20'</u> )				<b>Hydrophytic Vegetation Indicators:</b> <u>        </u> 1 - Rapid Test for Hydrophytic Vegetation <u><input checked="" type="checkbox"/></u> 2 - Dominance Test is >50% <u>        </u> 3 - Prevalence Index is ≤3.0 <sup>1</sup> <u>        </u> 4 - Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) <u>        </u> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)  <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
<u>        </u> = Total Cover 50% of total cover: <u>        </u> 20% of total cover: <u>        </u>				
<b>Herb Stratum</b> (Plot size: <u>20'x20'</u> )				<b>Definitions of Five Vegetation Strata:</b>  <b>Tree</b> – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).  <b>Sapling</b> – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.  <b>Shrub</b> – Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.  <b>Herb</b> – All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately 3 ft (1 m) in height.  <b>Woody vine</b> – All woody vines, regardless of height.
1. <u>Juncus effusus</u>	<u>15%</u>	<u>YES</u>	<u>FACW</u>	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
<u>15%</u> = Total Cover 50% of total cover: <u>7.5%</u> 20% of total cover: <u>3%</u>				
<b>Woody Vine Stratum</b> (Plot size: <u>20'x20'</u> )				<b>Hydrophytic Vegetation Present?</b> Yes <u><input checked="" type="checkbox"/></u> No <u>        </u>
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
<u>        </u> = Total Cover 50% of total cover: <u>        </u> 20% of total cover: <u>        </u>				
Remarks: (Include photo numbers here or on a separate sheet.)				

## SOIL

Sampling Point: DP-11

[illegible]

# WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

Project/Site: Cumberland County Property City/County: Cumberland County Sampling Date: 4/9/2018  
 Applicant/Owner: CWV, LLC; c/o James H. Martin State: VA Sampling Point: DP-11, UPL  
 Investigator(s): Hannah L. Miller, Robert Goodwin Section, Township, Range: Tax Map #37-A-69  
 Landform (hillslope, terrace, etc.): Hillslope/Toe of Slope Local relief (concave, convex, none): \_\_\_\_\_ Slope (%): 2-4%  
 Subregion (LRR or MLRA): n/a Lat: 37.570448660 Long: -78.125199141 Datum: \_\_\_\_\_  
 Soil Map Unit Name: Poindexter Wedowee complex NWI classification: UPL  
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes ☒ No \_\_\_\_\_ (If no, explain in Remarks.)  
 Are Vegetation \_\_\_\_\_, Soil \_\_\_\_\_, or Hydrology \_\_\_\_\_ significantly disturbed? Are "Normal Circumstances" present? Yes ☒ No \_\_\_\_\_  
 Are Vegetation \_\_\_\_\_, Soil \_\_\_\_\_, or Hydrology \_\_\_\_\_ naturally problematic? (If needed, explain any answers in Remarks.)

## SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes _____ No <input checked="" type="checkbox"/> Hydric Soil Present? Yes _____ No <input checked="" type="checkbox"/> Wetland Hydrology Present? Yes _____ No <input checked="" type="checkbox"/>	<b>Is the Sampled Area within a Wetland?</b> Yes _____ No <input checked="" type="checkbox"/>
Remarks:  Data point was taken adjacent to flag F-28.	

## HYDROLOGY

<b>Wetland Hydrology Indicators:</b> <u>Primary Indicators (minimum of one is required; check all that apply)</u> <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> True Aquatic Plants (B14) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> Aquatic Fauna (B13)		<u>Secondary Indicators (minimum of two required)</u> <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> Microtopographic Relief (D4) <input type="checkbox"/> FAC-Neutral Test (D5)
<b>Field Observations:</b> Surface Water Present? Yes _____ No <input checked="" type="checkbox"/> Depth (inches): _____ Water Table Present? Yes _____ No <input checked="" type="checkbox"/> Depth (inches): _____ Saturation Present? Yes _____ No <input checked="" type="checkbox"/> Depth (inches): _____ (includes capillary fringe)	<b>Wetland Hydrology Present?</b> Yes _____ No <input checked="" type="checkbox"/>	
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:		
Remarks:		



**VEGETATION (Five Strata) – Use scientific names of plants.**

 Sampling Point: DP-11, UPL

Tree Stratum (Plot size: <u>20'x20'</u> )	Absolute % Cover	Dominant Species?	Indicator Status															
1. <u>Fagus grandifolia</u>	<u>40%</u>	<u>YES</u>	<u>FACU</u>	<b>Dominance Test worksheet:</b> Number of Dominant Species That Are OBL, FACW, or FAC: <u>1</u> (A)  Total Number of Dominant Species Across All Strata: <u>5</u> (B)  Percent of Dominant Species That Are OBL, FACW, or FAC: <u>20%</u> (A/B)														
2. <u>Liriodendron tulipifera</u>	<u>20%</u>	<u>YES</u>	<u>FACU</u>															
3. _____	_____	_____	_____															
4. _____	_____	_____	_____															
5. _____	_____	_____	_____															
6. _____	_____	_____	_____															
_____ = Total Cover				<b>Prevalence Index worksheet:</b> <table style="width: 100%;"> <tr> <th style="width: 50%;">Total % Cover of:</th> <th style="width: 50%;">Multiply by:</th> </tr> <tr> <td>OBL species <u>0</u></td> <td>x 1 = <u>0</u></td> </tr> <tr> <td>FACW species <u>0</u></td> <td>x 2 = <u>0</u></td> </tr> <tr> <td>FAC species <u>10</u></td> <td>x 3 = <u>30</u></td> </tr> <tr> <td>FACU species <u>70</u></td> <td>x 4 = <u>280</u></td> </tr> <tr> <td>UPL species <u>20</u></td> <td>x 5 = <u>100</u></td> </tr> <tr> <td>Column Totals: <u>100</u> (A)</td> <td><u>410</u> (B)</td> </tr> </table> Prevalence Index = B/A = <u>4.10</u>	Total % Cover of:	Multiply by:	OBL species <u>0</u>	x 1 = <u>0</u>	FACW species <u>0</u>	x 2 = <u>0</u>	FAC species <u>10</u>	x 3 = <u>30</u>	FACU species <u>70</u>	x 4 = <u>280</u>	UPL species <u>20</u>	x 5 = <u>100</u>	Column Totals: <u>100</u> (A)	<u>410</u> (B)
Total % Cover of:	Multiply by:																	
OBL species <u>0</u>	x 1 = <u>0</u>																	
FACW species <u>0</u>	x 2 = <u>0</u>																	
FAC species <u>10</u>	x 3 = <u>30</u>																	
FACU species <u>70</u>	x 4 = <u>280</u>																	
UPL species <u>20</u>	x 5 = <u>100</u>																	
Column Totals: <u>100</u> (A)	<u>410</u> (B)																	
50% of total cover: <u>30%</u> 20% of total cover: <u>12%</u>																		
<b>Sapling Stratum</b> (Plot size: <u>20'x20'</u> )																		
1. <u>Fagus grandifolia</u>	<u>10%</u>	<u>YES</u>	<u>FACU</u>															
2. <u>Ilex opaca</u>	<u>10%</u>	<u>YES</u>	<u>FAC</u>															
3. _____	_____	_____	_____															
4. _____	_____	_____	_____															
5. _____	_____	_____	_____															
6. _____	_____	_____	_____															
_____ = Total Cover																		
50% of total cover: <u>10%</u> 20% of total cover: <u>4%</u>																		
<b>Shrub Stratum</b> (Plot size: <u>20'x20'</u> )																		
1. _____	_____	_____	_____	<b>Hydrophytic Vegetation Indicators:</b> <input type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation <input type="checkbox"/> 2 - Dominance Test is >50% <input type="checkbox"/> 3 - Prevalence Index is ≤3.0 <sup>1</sup> <input type="checkbox"/> 4 - Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)														
2. _____	_____	_____	_____															
3. _____	_____	_____	_____															
4. _____	_____	_____	_____															
5. _____	_____	_____	_____															
6. _____	_____	_____	_____															
_____ = Total Cover																		
50% of total cover: _____ 20% of total cover: _____																		
<b>Herb Stratum</b> (Plot size: <u>20'x20'</u> )																		
1. <u>Sanguinaria canadensis</u>	<u>20%</u>	<u>YES</u>	<u>UPL</u>	<b>Definitions of Five Vegetation Strata:</b>  <b>Tree</b> – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).  <b>Sapling</b> – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.  <b>Shrub</b> – Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.  <b>Herb</b> – All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately 3 ft (1 m) in height.  <b>Woody vine</b> – All woody vines, regardless of height.														
2. _____	_____	_____	_____															
3. _____	_____	_____	_____															
4. _____	_____	_____	_____															
5. _____	_____	_____	_____															
6. _____	_____	_____	_____															
_____ = Total Cover																		
50% of total cover: <u>10%</u> 20% of total cover: <u>4%</u>																		
<b>Woody Vine Stratum</b> (Plot size: <u>20'x20'</u> )																		
1. _____	_____	_____	_____	<b>Hydrophytic Vegetation Present?</b> Yes _____ No <u>X</u>														
2. _____	_____	_____	_____															
3. _____	_____	_____	_____															
4. _____	_____	_____	_____															
5. _____	_____	_____	_____															
6. _____	_____	_____	_____															
_____ = Total Cover																		
50% of total cover: _____ 20% of total cover: _____																		
Remarks: (Include photo numbers here or on a separate sheet.)																		

## SOIL

Sampling Point: DP-11, UPL

[illegible]

## WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

Project/Site: Cumberland County Property City/County: Cumberland County Sampling Date: 4/11/2018  
Applicant/Owner: CWV, LLC; c/o James H. Martin State: VA Sampling Point: DP-12  
Investigator(s): Robert Goodwin, Hannah L. Miller Section, Township, Range: Tax Map # 37-A-69  
Landform (hillslope, terrace, etc.): Floodplain Local relief (concave, convex, none): \_\_\_\_\_ Slope (%): 1-3%  
Subregion (LRR or MLRA): n/a Lat: 37.574685795 Long: -78.128520405 Datum: \_\_\_\_\_  
Soil Map Unit Name: Cecil sandy loam/Appling Helena complex NWI classification: PFO  
Are climatic / hydrologic conditions on the site typical for this time of year? Yes ☒ No \_\_\_\_\_ (If no, explain in Remarks.)  
Are Vegetation \_\_\_\_\_, Soil \_\_\_\_\_, or Hydrology \_\_\_\_\_ significantly disturbed? Are "Normal Circumstances" present? Yes ☒ No \_\_\_\_\_  
Are Vegetation \_\_\_\_\_, Soil \_\_\_\_\_, or Hydrology \_\_\_\_\_ naturally problematic? (If needed, explain any answers in Remarks.)

### SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No _____	Is the Sampled Area within a Wetland? Yes <input checked="" type="checkbox"/> No _____
Hydric Soil Present? Yes <input checked="" type="checkbox"/> No _____	
Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No _____	
Remarks:  Data point was taken next to flag M-291.	

### HYDROLOGY

<b>Wetland Hydrology Indicators:</b>		<b>Secondary Indicators (minimum of two required)</b>
<u>Primary Indicators (minimum of one is required; check all that apply)</u>		
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> True Aquatic Plants (B14)	<input type="checkbox"/> Surface Soil Cracks (B6)
<input checked="" type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)
<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3)	<input checked="" type="checkbox"/> Drainage Patterns (B10)
<input checked="" type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input checked="" type="checkbox"/> Moss Trim Lines (B16)
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	<input type="checkbox"/> Dry-Season Water Table (C2)
<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Thin Muck Surface (C7)	<input type="checkbox"/> Crayfish Burrows (C8)
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)
<input type="checkbox"/> Iron Deposits (B5)		<input type="checkbox"/> Stunted or Stressed Plants (D1)
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)		<input checked="" type="checkbox"/> Geomorphic Position (D2)
<input checked="" type="checkbox"/> Water-Stained Leaves (B9)		<input type="checkbox"/> Shallow Aquitard (D3)
<input type="checkbox"/> Aquatic Fauna (B13)		<input type="checkbox"/> Microtopographic Relief (D4)
		<input type="checkbox"/> FAC-Neutral Test (D5)
<b>Field Observations:</b>		
Surface Water Present? Yes _____ No <input checked="" type="checkbox"/> Depth (inches): _____		
Water Table Present? Yes <input checked="" type="checkbox"/> No _____ Depth (inches): <u>5"</u>		
Saturation Present? Yes _____ No <input checked="" type="checkbox"/> Depth (inches): _____ (includes capillary fringe)		
		<b>Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No _____</b>
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:		
Remarks:		

**VEGETATION (Five Strata) – Use scientific names of plants.**

 Sampling Point: DP-12

Tree Stratum (Plot size: <u>20'x20'</u> )	Absolute % Cover	Dominant Species?	Indicator Status	
1. <u>Acer rubrum</u>	<u>15%</u>	YES	FAC	<b>Dominance Test worksheet:</b> Number of Dominant Species That Are OBL, FACW, or FAC: <u>6</u> (A)  Total Number of Dominant Species Across All Strata: <u>7</u> (B)  Percent of Dominant Species That Are OBL, FACW, or FAC: <u>85%</u> (A/B)
2. <u>Liquidambar styraciflua</u>	<u>20%</u>	YES	FAC	
3. _____				
4. _____				
5. _____				
6. _____				
<u>35%</u> = Total Cover				<b>Prevalence Index worksheet:</b> Total % Cover of: _____ Multiply by: OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: _____ (A) _____ (B)  Prevalence Index = B/A = _____
50% of total cover: <u>17.5%</u> 20% of total cover: <u>7%</u>				
<b>Sapling Stratum</b> (Plot size: <u>20'x20'</u> )				
1. <u>Lindera benzoin</u>	<u>15%</u>	YES	FAC	
2. <u>Carpinus caroliniana</u>	<u>20%</u>	YES	FAC	
3. <u>Fagus grandifolia</u>	<u>10%</u>	YES	FACU	
<u>45%</u> = Total Cover				
50% of total cover: <u>22.5%</u> 20% of total cover: <u>9%</u>				
<b>Shrub Stratum</b> (Plot size: <u>20'x20'</u> )				<b>Hydrophytic Vegetation Indicators:</b> <input type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation <input checked="" type="checkbox"/> 2 - Dominance Test is >50% <input type="checkbox"/> 3 - Prevalence Index is ≤3.0 <sup>1</sup> <input type="checkbox"/> 4 - Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)  <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
1. _____				
2. _____				
3. _____				
4. _____				
5. _____				
<u>      </u> = Total Cover				
50% of total cover: _____ 20% of total cover: _____				
<b>Herb Stratum</b> (Plot size: <u>20'x20'</u> )				<b>Definitions of Five Vegetation Strata:</b>  <b>Tree</b> – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).  <b>Sapling</b> – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.  <b>Shrub</b> – Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.  <b>Herb</b> – All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately 3 ft (1 m) in height.  <b>Woody vine</b> – All woody vines, regardless of height.
1. <u>Juncus effusus</u>	<u>5%</u>	YES	FACW	
2. _____				
3. _____				
4. _____				
5. _____				
<u>5%</u> = Total Cover				
50% of total cover: <u>2.5%</u> 20% of total cover: <u>1%</u>				
<b>Woody Vine Stratum</b> (Plot size: <u>20'x20'</u> )				<b>Hydrophytic Vegetation Present?</b> Yes <u>X</u> No _____
1. <u>Vitis riparia</u>	<u>15%</u>	YES	FACW	
2. _____				
3. _____				
4. _____				
5. _____				
<u>15%</u> = Total Cover				
50% of total cover: <u>7.5%</u> 20% of total cover: <u>3%</u>				
Remarks: (Include photo numbers here or on a separate sheet.)				

## SOIL

Sampling Point: DP-12

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)								
Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>		
0-4	10YR 3/2	100					Sandy Loam	
4-18	10YR 6/2	90	7.5YR 5/6	10	C	PL	Sandy Loam	

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.

<sup>2</sup>Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:			Indicators for Problematic Hydric Soils³:		
<input type="checkbox"/> Histosol (A1)	<input checked="" type="checkbox"/> Dark Surface (S7)	<input type="checkbox"/> 2 cm Muck (A10) ( <b>MLRA 147</b> )			
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Polyvalue Below Surface (S8) ( <b>MLRA 147, 148</b> )	<input type="checkbox"/> Coast Prairie Redox (A16)			
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Thin Dark Surface (S9) ( <b>MLRA 147, 148</b> )	<input type="checkbox"/> <b>(MLRA 147, 148)</b>			
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Piedmont Floodplain Soils (F19)			
<input type="checkbox"/> Stratified Layers (A5)	<input checked="" type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> <b>(MLRA 136, 147)</b>			
<input type="checkbox"/> 2 cm Muck (A10) ( <b>LRR N</b> )	<input type="checkbox"/> Redox Dark Surface (F6)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)			
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Dark Surface (F7)	<input type="checkbox"/> Other (Explain in Remarks)			
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Redox Depressions (F8)				
<input type="checkbox"/> Sandy Mucky Mineral (S1) ( <b>LRR N,</b>	<input type="checkbox"/> Iron-Manganese Masses (F12) ( <b>LRR N,</b>				
<input type="checkbox"/> <b>MLRA 147, 148)</b>	<input type="checkbox"/> <b>MLRA 136)</b>				
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Umbric Surface (F13) ( <b>MLRA 136, 122)</b>				
<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) ( <b>MLRA 148)</b>				
<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Red Parent Material (F21) ( <b>MLRA 127, 147)</b>				

Restrictive Layer (if observed):

Type: \_\_\_\_\_

Depth (inches): \_\_\_\_\_

Hydric Soil Present?

Yes ☒

No ☐

Remarks:

## WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

Project/Site: Cumberland County Property City/County: Cumberland County Sampling Date: 4/11/2018  
Applicant/Owner: CWV, LLC; c/o James H. Martin State: VA Sampling Point: DP-12, UPL  
Investigator(s): Hannah L. Miller, Robert Goodwin Section, Township, Range: Tax Map #37-A-69  
Landform (hillslope, terrace, etc.): Hillslope Local relief (concave, convex, none): \_\_\_\_\_ Slope (%): 3-5%  
Subregion (LRR or MLRA): n/a Lat: 37.574685795 Long: -78.128520405 Datum: \_\_\_\_\_  
Soil Map Unit Name: Cecil sandy loam/Appling Helena complex NWI classification: UPL  
Are climatic / hydrologic conditions on the site typical for this time of year? Yes ☒ No \_\_\_\_\_ (If no, explain in Remarks.)  
Are Vegetation \_\_\_\_\_, Soil \_\_\_\_\_, or Hydrology \_\_\_\_\_ significantly disturbed? Are "Normal Circumstances" present? Yes ☒ No \_\_\_\_\_  
Are Vegetation \_\_\_\_\_, Soil \_\_\_\_\_, or Hydrology \_\_\_\_\_ naturally problematic? (If needed, explain any answers in Remarks.)

### SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes _____ No <input checked="" type="checkbox"/>	Is the Sampled Area within a Wetland? Yes _____ No <input checked="" type="checkbox"/>
Hydric Soil Present? Yes _____ No <input checked="" type="checkbox"/>	
Wetland Hydrology Present? Yes _____ No <input checked="" type="checkbox"/>	
Remarks:  Data point was taken adjacent to flag M-291.	

### HYDROLOGY

<b>Wetland Hydrology Indicators:</b>		<b>Secondary Indicators (minimum of two required)</b>
<u>Primary Indicators (minimum of one is required; check all that apply)</u>		
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> True Aquatic Plants (B14)	<input type="checkbox"/> Surface Soil Cracks (B6)
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)
<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3)	<input type="checkbox"/> Drainage Patterns (B10)
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Moss Trim Lines (B16)
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	<input type="checkbox"/> Dry-Season Water Table (C2)
<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Thin Muck Surface (C7)	<input type="checkbox"/> Crayfish Burrows (C8)
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)
<input type="checkbox"/> Iron Deposits (B5)		<input type="checkbox"/> Stunted or Stressed Plants (D1)
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)		<input type="checkbox"/> Geomorphic Position (D2)
<input type="checkbox"/> Water-Stained Leaves (B9)		<input type="checkbox"/> Shallow Aquitard (D3)
<input type="checkbox"/> Aquatic Fauna (B13)		<input type="checkbox"/> Microtopographic Relief (D4)
		<input type="checkbox"/> FAC-Neutral Test (D5)
<b>Field Observations:</b>		
Surface Water Present? Yes _____ No <input checked="" type="checkbox"/> Depth (inches): _____		
Water Table Present? Yes _____ No <input checked="" type="checkbox"/> Depth (inches): _____		
Saturation Present? Yes _____ No <input checked="" type="checkbox"/> Depth (inches): _____ (includes capillary fringe)		
		<b>Wetland Hydrology Present? Yes _____ No <input checked="" type="checkbox"/></b>
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:		
Remarks:		

**VEGETATION (Five Strata) – Use scientific names of plants.**

 Sampling Point: DP-12, UPL

Tree Stratum (Plot size: <u>20'x20'</u> )	Absolute % Cover	Dominant Species?	Indicator Status															
1. <u>Pinus taeda</u>	<u>85%</u>	YES	FAC	<b>Dominance Test worksheet:</b> Number of Dominant Species That Are OBL, FACW, or FAC: <u>1</u> (A)  Total Number of Dominant Species Across All Strata: <u>2</u> (B)  Percent of Dominant Species That Are OBL, FACW, or FAC: <u>50%</u> (A/B)														
2. _____																		
3. _____																		
4. _____																		
5. _____																		
6. _____																		
<u>85%</u> = Total Cover				<b>Prevalence Index worksheet:</b> <table style="width: 100%;"> <tr> <td style="width: 50%;">Total % Cover of:</td> <td style="width: 50%;">Multiply by:</td> </tr> <tr> <td>OBL species <u>0</u></td> <td>x 1 = <u>0</u></td> </tr> <tr> <td>FACW species <u>0</u></td> <td>x 2 = <u>0</u></td> </tr> <tr> <td>FAC species <u>85</u></td> <td>x 3 = <u>255</u></td> </tr> <tr> <td>FACU species <u>15</u></td> <td>x 4 = <u>60</u></td> </tr> <tr> <td>UPL species <u>0</u></td> <td>x 5 = <u>0</u></td> </tr> <tr> <td>Column Totals: <u>100</u></td> <td>(A) <u>315</u> (B)</td> </tr> </table> Prevalence Index = B/A = <u>3.15</u>	Total % Cover of:	Multiply by:	OBL species <u>0</u>	x 1 = <u>0</u>	FACW species <u>0</u>	x 2 = <u>0</u>	FAC species <u>85</u>	x 3 = <u>255</u>	FACU species <u>15</u>	x 4 = <u>60</u>	UPL species <u>0</u>	x 5 = <u>0</u>	Column Totals: <u>100</u>	(A) <u>315</u> (B)
Total % Cover of:	Multiply by:																	
OBL species <u>0</u>	x 1 = <u>0</u>																	
FACW species <u>0</u>	x 2 = <u>0</u>																	
FAC species <u>85</u>	x 3 = <u>255</u>																	
FACU species <u>15</u>	x 4 = <u>60</u>																	
UPL species <u>0</u>	x 5 = <u>0</u>																	
Column Totals: <u>100</u>	(A) <u>315</u> (B)																	
50% of total cover: <u>42.5%</u> 20% of total cover: <u>17%</u>																		
Sapling Stratum (Plot size: <u>20'x20'</u> )																		
1. <u>Fagus grandifolia</u>	<u>15%</u>	YES	FACU															
2. _____																		
3. _____																		
4. _____																		
5. _____																		
6. _____																		
<u>15%</u> = Total Cover																		
50% of total cover: <u>7.5%</u> 20% of total cover: <u>3%</u>																		
Shrub Stratum (Plot size: <u>20'x20'</u> )																		
1. _____																		
2. _____																		
3. _____																		
4. _____																		
5. _____																		
6. _____																		
<u>        </u> = Total Cover																		
50% of total cover: <u>        </u> 20% of total cover: <u>        </u>																		
Herb Stratum (Plot size: <u>20'x20'</u> )																		
1. _____																		
2. _____																		
3. _____																		
4. _____																		
5. _____																		
6. _____																		
7. _____																		
8. _____																		
9. _____																		
10. _____																		
11. _____																		
<u>        </u> = Total Cover																		
50% of total cover: <u>        </u> 20% of total cover: <u>        </u>																		
Woody Vine Stratum (Plot size: <u>20'x20'</u> )																		
1. _____																		
2. _____																		
3. _____																		
4. _____																		
5. _____																		
<u>        </u> = Total Cover																		
50% of total cover: <u>        </u> 20% of total cover: <u>        </u>																		
Remarks: (Include photo numbers here or on a separate sheet.)																		

**Definitions of Five Vegetation Strata:**  
  
**Tree** – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).  
  
**Sapling** – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.  
  
**Shrub** – Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.  
  
**Herb** – All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately 3 ft (1 m) in height.  
  
**Woody vine** – All woody vines, regardless of height.

**Hydrophytic Vegetation Present?**      Yes               No X

## SOIL

Sampling Point: DP-12, UPL

[illegible]



# WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

Project/Site: Cumberland County Property City/County: Cumberland County Sampling Date: 4/11/2018  
Applicant/Owner: CWV, LLC; c/o James H. Martin State: VA Sampling Point: DP-13  
Investigator(s): Hannah L. Miller, Robert Goodwin Section, Township, Range: Tax Map # 37-A-69  
Landform (hillslope, terrace, etc.): Floodplain Local relief (concave, convex, none): \_\_\_\_\_ Slope (%): 0-2%  
Subregion (LRR or MLRA): n/a Lat: 37.5800 Long: -78.1300 Datum: \_\_\_\_\_  
Soil Map Unit Name: Pacolet-Wateree complex NWI classification: R3  
Are climatic / hydrologic conditions on the site typical for this time of year? Yes ☒ No \_\_\_\_\_ (If no, explain in Remarks.)  
Are Vegetation \_\_\_\_\_, Soil \_\_\_\_\_, or Hydrology \_\_\_\_\_ significantly disturbed? Are "Normal Circumstances" present? Yes ☒ No \_\_\_\_\_  
Are Vegetation \_\_\_\_\_, Soil \_\_\_\_\_, or Hydrology \_\_\_\_\_ naturally problematic? (If needed, explain any answers in Remarks.)

## SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No _____	Is the Sampled Area within a Wetland? Yes <input checked="" type="checkbox"/> No _____
Hydric Soil Present? Yes <input checked="" type="checkbox"/> No _____	
Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No _____	
Remarks:  Data point was taken next to flag H-333.	

## HYDROLOGY

<b>Wetland Hydrology Indicators:</b>		<b>Secondary Indicators (minimum of two required)</b>
<u>Primary Indicators (minimum of one is required; check all that apply)</u>		
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> True Aquatic Plants (B14)	<input type="checkbox"/> Surface Soil Cracks (B6)
<input checked="" type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)
<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3)	<input checked="" type="checkbox"/> Drainage Patterns (B10)
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input checked="" type="checkbox"/> Moss Trim Lines (B16)
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	<input type="checkbox"/> Dry-Season Water Table (C2)
<input checked="" type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Thin Muck Surface (C7)	<input type="checkbox"/> Crayfish Burrows (C8)
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)
<input type="checkbox"/> Iron Deposits (B5)		<input type="checkbox"/> Stunted or Stressed Plants (D1)
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)		<input checked="" type="checkbox"/> Geomorphic Position (D2)
<input checked="" type="checkbox"/> Water-Stained Leaves (B9)		<input type="checkbox"/> Shallow Aquitard (D3)
<input type="checkbox"/> Aquatic Fauna (B13)		<input type="checkbox"/> Microtopographic Relief (D4)
		<input type="checkbox"/> FAC-Neutral Test (D5)
<b>Field Observations:</b>		
Surface Water Present? Yes _____ No <input checked="" type="checkbox"/> Depth (inches): _____		
Water Table Present? Yes <input checked="" type="checkbox"/> No _____ Depth (inches): <u>7"</u>		
Saturation Present? Yes <input checked="" type="checkbox"/> No _____ Depth (inches): _____ (includes capillary fringe)		
		<b>Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No _____</b>
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:		
Remarks:		

**VEGETATION (Five Strata) – Use scientific names of plants.**

 Sampling Point: DP-13

Tree Stratum (Plot size: <u>20'x20'</u> )	Absolute % Cover	Dominant Species?	Indicator Status	
1. <u>Liquidambar styraciflua</u>	<u>20%</u>	<u>YES</u>	<u>FAC</u>	<b>Dominance Test worksheet:</b> Number of Dominant Species That Are OBL, FACW, or FAC: <u>6</u> (A)  Total Number of Dominant Species Across All Strata: <u>7</u> (B)  Percent of Dominant Species That Are OBL, FACW, or FAC: <u>85%</u> (A/B)
2. <u>Platanus occidentalis</u>	<u>15%</u>	<u>YES</u>	<u>FACW</u>	
3. <u>Carpinus caroliniana</u>	<u>10%</u>	<u>YES</u>	<u>FAC</u>	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
<u>45%</u> = Total Cover 50% of total cover: <u>22.5%</u> 20% of total cover: <u>9%</u>				<b>Prevalence Index worksheet:</b> Total % Cover of: _____ Multiply by: OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: _____ (A) _____ (B)  Prevalence Index = B/A = _____
<b>Sapling Stratum</b> (Plot size: <u>20'x20'</u> )				
1. <u>Carpinus caroliniana</u>	<u>15%</u>	<u>YES</u>	<u>FAC</u>	
2. <u>Fagus grandifolia</u>	<u>5%</u>	<u>YES</u>	<u>FACU</u>	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
<u>20%</u> = Total Cover 50% of total cover: <u>10%</u> 20% of total cover: <u>4%</u>				
<b>Shrub Stratum</b> (Plot size: <u>20'x20'</u> )				<b>Hydrophytic Vegetation Indicators:</b> <input type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation <input checked="" type="checkbox"/> 2 - Dominance Test is >50% <input type="checkbox"/> 3 - Prevalence Index is ≤3.0 <sup>1</sup> <input type="checkbox"/> 4 - Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)  <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
_____ = Total Cover 50% of total cover: _____ 20% of total cover: _____				
<b>Herb Stratum</b> (Plot size: <u>20'x20'</u> )				<b>Definitions of Five Vegetation Strata:</b>  <b>Tree</b> – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).  <b>Sapling</b> – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.  <b>Shrub</b> – Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.  <b>Herb</b> – All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately 3 ft (1 m) in height.  <b>Woody vine</b> – All woody vines, regardless of height.
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
_____ = Total Cover 50% of total cover: _____ 20% of total cover: _____				
<b>Woody Vine Stratum</b> (Plot size: <u>20'x20'</u> )				<b>Hydrophytic Vegetation Present?</b> Yes <u>X</u> No _____
1. <u>Vitis riparia</u>	<u>20%</u>	<u>YES</u>	<u>FACW</u>	
2. <u>Smilax rotundifolia</u>	<u>15%</u>	<u>YES</u>	<u>FAC</u>	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
<u>35%</u> = Total Cover 50% of total cover: <u>17.5%</u> 20% of total cover: <u>7%</u>				
Remarks: (Include photo numbers here or on a separate sheet.)				

## SOIL

Sampling Point: DP-13

[illegible]

## WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

Project/Site: Cumberland County Property City/County: Cumberland County Sampling Date: 4/11/2018  
Applicant/Owner: CWV, LLC; c/o James H. Martin State: VA Sampling Point: DP-13, UPL  
Investigator(s): Shannon D. Hill, Robert Goodwin Section, Township, Range: Tax Map #37-A-69  
Landform (hillslope, terrace, etc.): Hillslope Local relief (concave, convex, none): \_\_\_\_\_ Slope (%): 2-4%  
Subregion (LRR or MLRA): n/a Lat: 37.5800 Long: -78.1300 Datum: \_\_\_\_\_  
Soil Map Unit Name: Pacolet Wateree complex NWI classification: UPL  
Are climatic / hydrologic conditions on the site typical for this time of year? Yes ☒ No \_\_\_\_\_ (If no, explain in Remarks.)  
Are Vegetation \_\_\_\_\_, Soil \_\_\_\_\_, or Hydrology \_\_\_\_\_ significantly disturbed? Are "Normal Circumstances" present? Yes ☒ No \_\_\_\_\_  
Are Vegetation \_\_\_\_\_, Soil \_\_\_\_\_, or Hydrology \_\_\_\_\_ naturally problematic? (If needed, explain any answers in Remarks.)

### SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes _____ No <input checked="" type="checkbox"/>	Hydic Soil Present? Yes _____ No <input checked="" type="checkbox"/>	Wetland Hydrology Present? Yes _____ No <input checked="" type="checkbox"/>	Is the Sampled Area within a Wetland? Yes _____ No <input checked="" type="checkbox"/>
Remarks:  Data point was taken adjacent to flag H-333.			

### HYDROLOGY

<b>Wetland Hydrology Indicators:</b> <u>Primary Indicators (minimum of one is required; check all that apply)</u> <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> True Aquatic Plants (B14) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> Aquatic Fauna (B13)		<u>Secondary Indicators (minimum of two required)</u> <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> Microtopographic Relief (D4) <input type="checkbox"/> FAC-Neutral Test (D5)
<b>Field Observations:</b> Surface Water Present? Yes _____ No <input checked="" type="checkbox"/> Depth (inches): _____ Water Table Present? Yes _____ No <input checked="" type="checkbox"/> Depth (inches): _____ Saturation Present? Yes _____ No <input checked="" type="checkbox"/> Depth (inches): _____ (includes capillary fringe)	Wetland Hydrology Present? Yes _____ No <input checked="" type="checkbox"/>	
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:		
Remarks:		

**VEGETATION (Five Strata) – Use scientific names of plants.**

 Sampling Point: DP-13, UPL

Tree Stratum (Plot size: <u>20'x20'</u> )	Absolute % Cover	Dominant Species?	Indicator Status															
1. <u>Liriodendron tulipifera</u>	<u>40%</u>	<u>YES</u>	<u>FACU</u>	<b>Dominance Test worksheet:</b> Number of Dominant Species That Are OBL, FACW, or FAC: <u>1</u> (A)  Total Number of Dominant Species Across All Strata: <u>5</u> (B)  Percent of Dominant Species That Are OBL, FACW, or FAC: <u>20%</u> (A/B)														
2. _____	_____	_____	_____															
3. _____	_____	_____	_____															
4. _____	_____	_____	_____															
5. _____	_____	_____	_____															
6. _____	_____	_____	_____															
<u>40%</u> = Total Cover				<b>Prevalence Index worksheet:</b> <table style="width: 100%;"> <tr> <td style="width: 50%;">Total % Cover of:</td> <td style="width: 50%;">Multiply by:</td> </tr> <tr> <td>OBL species <u>0</u></td> <td>x 1 = <u>0</u></td> </tr> <tr> <td>FACW species <u>0</u></td> <td>x 2 = <u>0</u></td> </tr> <tr> <td>FAC species <u>10</u></td> <td>x 3 = <u>30</u></td> </tr> <tr> <td>FACU species <u>90</u></td> <td>x 4 = <u>360</u></td> </tr> <tr> <td>UPL species <u>0</u></td> <td>x 5 = <u>0</u></td> </tr> <tr> <td>Column Totals: <u>100</u> (A)</td> <td><u>390</u> (B)</td> </tr> </table> Prevalence Index = B/A = <u>3.90</u>	Total % Cover of:	Multiply by:	OBL species <u>0</u>	x 1 = <u>0</u>	FACW species <u>0</u>	x 2 = <u>0</u>	FAC species <u>10</u>	x 3 = <u>30</u>	FACU species <u>90</u>	x 4 = <u>360</u>	UPL species <u>0</u>	x 5 = <u>0</u>	Column Totals: <u>100</u> (A)	<u>390</u> (B)
Total % Cover of:	Multiply by:																	
OBL species <u>0</u>	x 1 = <u>0</u>																	
FACW species <u>0</u>	x 2 = <u>0</u>																	
FAC species <u>10</u>	x 3 = <u>30</u>																	
FACU species <u>90</u>	x 4 = <u>360</u>																	
UPL species <u>0</u>	x 5 = <u>0</u>																	
Column Totals: <u>100</u> (A)	<u>390</u> (B)																	
50% of total cover: <u>20%</u> 20% of total cover: <u>8%</u> <b>Sapling Stratum</b> (Plot size: <u>20'x20'</u> )																		
1. <u>Fagus grandifolia</u>	<u>22.5%</u>	<u>YES</u>	<u>FACU</u>															
2. <u>Ilex opaca</u>	<u>10%</u>	<u>YES</u>	<u>FAC</u>															
3. <u>Juniperus virginiana</u>	<u>10%</u>	<u>YES</u>	<u>FACU</u>															
4. _____	_____	_____	_____															
5. _____	_____	_____	_____															
6. _____	_____	_____	_____															
<u>42.5%</u> = Total Cover																		
50% of total cover: <u>21.25%</u> 20% of total cover: <u>8.5%</u> <b>Shrub Stratum</b> (Plot size: <u>20'x20'</u> )																		
1. _____	_____	_____	_____															
2. _____	_____	_____	_____															
3. _____	_____	_____	_____															
4. _____	_____	_____	_____															
5. _____	_____	_____	_____															
6. _____	_____	_____	_____															
_____ = Total Cover																		
50% of total cover: _____ 20% of total cover: _____ <b>Herb Stratum</b> (Plot size: <u>20'x20'</u> )																		
1. <u>Polystichum acrostichoides</u>	<u>17.5%</u>	<u>YES</u>	<u>FACU</u>															
2. _____	_____	_____	_____															
3. _____	_____	_____	_____															
4. _____	_____	_____	_____															
5. _____	_____	_____	_____															
6. _____	_____	_____	_____															
7. _____	_____	_____	_____															
8. _____	_____	_____	_____															
9. _____	_____	_____	_____															
10. _____	_____	_____	_____															
11. _____	_____	_____	_____															
<u>17.5%</u> = Total Cover																		
50% of total cover: <u>8.75%</u> 20% of total cover: <u>3.5%</u> <b>Woody Vine Stratum</b> (Plot size: <u>20'x20'</u> )																		
1. <u>Smilax rotundifolia</u>	<u>10%</u>	<u>YES</u>	<u>FAC</u>															
2. _____	_____	_____	_____															
3. _____	_____	_____	_____															
4. _____	_____	_____	_____															
5. _____	_____	_____	_____															
<u>10%</u> = Total Cover																		
50% of total cover: <u>5%</u> 20% of total cover: <u>2%</u>																		
Remarks: (Include photo numbers here or on a separate sheet.)																		

**Definitions of Five Vegetation Strata:**  
  
**Tree** – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).  
  
**Sapling** – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.  
  
**Shrub** – Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.  
  
**Herb** – All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately 3 ft (1 m) in height.  
  
**Woody vine** – All woody vines, regardless of height.

**Hydrophytic Vegetation Present?** Yes \_\_\_\_\_ No X

## SOIL

Sampling Point: DP-13, UPL

[illegible]

# WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

Project/Site: Cumberland County Property City/County: Cumberland County Sampling Date: 4/11/2018  
 Applicant/Owner: CWV, LLC; c/o James H. Martin State: VA Sampling Point: DP-14  
 Investigator(s): Hannah L. Miller, Robert Goodwin Section, Township, Range: Tax Map # 37-A-69  
 Landform (hillslope, terrace, etc.): Floodplain Local relief (concave, convex, none): \_\_\_\_\_ Slope (%): 0-2%  
 Subregion (LRR or MLRA): n/a Lat: 37.57201 Long: -78.2739 Datum: \_\_\_\_\_  
 Soil Map Unit Name: Pacolet-Wateree complex NWI classification: R3

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ☒ No \_\_\_\_\_ (If no, explain in Remarks.)  
 Are Vegetation \_\_\_\_\_, Soil \_\_\_\_\_, or Hydrology \_\_\_\_\_ significantly disturbed? Are "Normal Circumstances" present? Yes ☒ No \_\_\_\_\_  
 Are Vegetation \_\_\_\_\_, Soil \_\_\_\_\_, or Hydrology \_\_\_\_\_ naturally problematic? (If needed, explain any answers in Remarks.)

## SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No _____ Hydric Soil Present? Yes <input checked="" type="checkbox"/> No _____ Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No _____	Is the Sampled Area within a Wetland? Yes <input checked="" type="checkbox"/> No _____
Remarks:  Data point was taken next to flag M-247.	

## HYDROLOGY

<b>Wetland Hydrology Indicators:</b> <u>Primary Indicators (minimum of one is required; check all that apply)</u> <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> True Aquatic Plants (B14) <input checked="" type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input checked="" type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> Aquatic Fauna (B13)		<u>Secondary Indicators (minimum of two required)</u> <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <input checked="" type="checkbox"/> Drainage Patterns (B10) <input checked="" type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input checked="" type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> Microtopographic Relief (D4) <input type="checkbox"/> FAC-Neutral Test (D5)
<b>Field Observations:</b> Surface Water Present? Yes _____ No <input checked="" type="checkbox"/> Depth (inches): _____ Water Table Present? Yes <input checked="" type="checkbox"/> No _____ Depth (inches): <u>6"</u> Saturation Present? Yes <input checked="" type="checkbox"/> No _____ Depth (inches): _____ (includes capillary fringe)	Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No _____	
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:		
Remarks:		

**VEGETATION (Five Strata) – Use scientific names of plants.**

 Sampling Point: DP-14

Tree Stratum (Plot size: <u>20'x20'</u> )	Absolute % Cover	Dominant Species?	Indicator Status	
1. <u>Betula nigra</u>	20%	YES	FACW	<b>Dominance Test worksheet:</b> Number of Dominant Species That Are OBL, FACW, or FAC: <u>6</u> (A)  Total Number of Dominant Species Across All Strata: <u>6</u> (B)  Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100%</u> (A/B)
2. <u>Acer rubrum</u>	20%	YES	FAC	
3. _____				
4. _____				
5. _____				
6. _____				
40% = Total Cover				<b>Prevalence Index worksheet:</b> Total % Cover of: _____ Multiply by: OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: _____ (A) _____ (B)  Prevalence Index = B/A = _____
50% of total cover: <u>20%</u> 20% of total cover: <u>8%</u>				
Sapling Stratum (Plot size: <u>20'x20'</u> )				
1. <u>Lindera benzoin</u>	30%	YES	FAC	
2. <u>Betula nigra</u>	10%	YES	FACW	
3. _____				
40% = Total Cover				
50% of total cover: <u>20%</u> 20% of total cover: <u>8%</u>				
Shrub Stratum (Plot size: <u>20'x20'</u> )				<b>Hydrophytic Vegetation Indicators:</b> <input type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation <input checked="" type="checkbox"/> 2 - Dominance Test is >50% <input type="checkbox"/> 3 - Prevalence Index is ≤3.0 <sup>1</sup> <input type="checkbox"/> 4 - Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)  <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
1. _____				
2. _____				
3. _____				
4. _____				
5. _____				
_____ = Total Cover				
50% of total cover: _____ 20% of total cover: _____				
Herb Stratum (Plot size: <u>20'x20'</u> )				<b>Definitions of Five Vegetation Strata:</b>  <b>Tree</b> – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).  <b>Sapling</b> – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.  <b>Shrub</b> – Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.  <b>Herb</b> – All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately 3 ft (1 m) in height.  <b>Woody vine</b> – All woody vines, regardless of height.
1. <u>Juncus effusus</u>	10%	YES	FACW	
2. _____				
3. _____				
4. _____				
5. _____				
6. _____				
7. _____				
8. _____				
9. _____				
10. _____				
10% = Total Cover				
50% of total cover: <u>5%</u> 20% of total cover: <u>2%</u>				
Woody Vine Stratum (Plot size: <u>20'x20'</u> )				
1. <u>Vitis riparia</u>	10%	YES	FACW	
2. _____				
3. _____				
4. _____				
5. _____				
10% = Total Cover				
50% of total cover: <u>5%</u> 20% of total cover: <u>2%</u>				
Remarks: (Include photo numbers here or on a separate sheet.)				



## SOIL

Sampling Point: DP-14

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)								
Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>		
0-4	10YR 5/2	100					Sandy Loam	
4-18	10YR 6/2	80	5YR 5/8	20	C	PL	Sandy Loam	

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.

<sup>2</sup>Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:		Indicators for Problematic Hydric Soils <sup>3</sup> :	
<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Dark Surface (S7)	<input type="checkbox"/> 2 cm Muck (A10) ( <b>MLRA 147</b> )	
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Polyvalue Below Surface (S8) ( <b>MLRA 147, 148</b> )	<input type="checkbox"/> Coast Prairie Redox (A16)	
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Thin Dark Surface (S9) ( <b>MLRA 147, 148</b> )	<input type="checkbox"/> <b>(MLRA 147, 148)</b>	
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Piedmont Floodplain Soils (F19)	
<input type="checkbox"/> Stratified Layers (A5)	<input checked="" type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> <b>(MLRA 136, 147)</b>	
<input type="checkbox"/> 2 cm Muck (A10) ( <b>LRR N</b> )	<input type="checkbox"/> Redox Dark Surface (F6)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)	
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Dark Surface (F7)	<input type="checkbox"/> Other (Explain in Remarks)	
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Redox Depressions (F8)		
<input type="checkbox"/> Sandy Mucky Mineral (S1) ( <b>LRR N,</b>	<input type="checkbox"/> Iron-Manganese Masses (F12) ( <b>LRR N,</b>		
<input type="checkbox"/> <b>MLRA 147, 148)</b>	<input type="checkbox"/> <b>MLRA 136)</b>		
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Umbric Surface (F13) ( <b>MLRA 136, 122)</b>		
<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) ( <b>MLRA 148)</b>		
<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Red Parent Material (F21) ( <b>MLRA 127, 147)</b>		

Restrictive Layer (if observed):

Type: \_\_\_\_\_

Depth (inches): \_\_\_\_\_

Hydric Soil Present?

Yes ☒

No \_\_\_\_\_

Remarks:

## WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

Project/Site: Cumberland County Property City/County: Cumberland County Sampling Date: 4/11/2018  
Applicant/Owner: CWV, LLC; c/o James H. Martin State: VA Sampling Point: DP-14, UPL  
Investigator(s): Hannah L. Miller Section, Township, Range: Tax Map #45-A-1  
Landform (hillslope, terrace, etc.): Terrace Local relief (concave, convex, none): \_\_\_\_\_ Slope (%): 1-3%  
Subregion (LRR or MLRA): n/a Lat: 37.57201 Long: -78.12739 Datum: \_\_\_\_\_  
Soil Map Unit Name: Pacolet Wateree complex NWI classification: UPL  
Are climatic / hydrologic conditions on the site typical for this time of year? Yes ☒ No \_\_\_\_\_ (If no, explain in Remarks.)  
Are Vegetation \_\_\_\_\_, Soil \_\_\_\_\_, or Hydrology \_\_\_\_\_ significantly disturbed? Are "Normal Circumstances" present? Yes ☒ No \_\_\_\_\_  
Are Vegetation \_\_\_\_\_, Soil \_\_\_\_\_, or Hydrology \_\_\_\_\_ naturally problematic? (If needed, explain any answers in Remarks.)

### SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

<p>Hydrophytic Vegetation Present? Yes _____ No <input checked="" type="checkbox"/></p> <p>Hydric Soil Present? Yes _____ No <input checked="" type="checkbox"/></p> <p>Wetland Hydrology Present? Yes _____ No <input checked="" type="checkbox"/></p>	<p><b>Is the Sampled Area within a Wetland?</b> Yes _____ No <input checked="" type="checkbox"/></p>
<p>Remarks:</p> <p style="margin-left: 40px;">Data point was taken adjacent to flag M-247.</p>	

### HYDROLOGY

<b>Wetland Hydrology Indicators:</b>		<u>Secondary Indicators (minimum of two required)</u>
<u>Primary Indicators (minimum of one is required; check all that apply)</u>		
<input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> Aquatic Fauna (B13)	<input type="checkbox"/> True Aquatic Plants (B14) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> Microtopographic Relief (D4) <input type="checkbox"/> FAC-Neutral Test (D5)
<b>Field Observations:</b>		
Surface Water Present? Yes _____ No <input checked="" type="checkbox"/> Depth (inches): _____	Water Table Present? Yes _____ No <input checked="" type="checkbox"/> Depth (inches): _____	
Saturation Present? Yes _____ No <input checked="" type="checkbox"/> Depth (inches): _____ (includes capillary fringe)		<b>Wetland Hydrology Present?</b> Yes _____ No <input checked="" type="checkbox"/>
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:		
<p>Remarks:</p>		

**VEGETATION (Five Strata) – Use scientific names of plants.**

 Sampling Point: DP-14, UPL

<p><b>Tree Stratum</b> (Plot size: <u>20'x20'</u> )</p> <table style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 40%;"></th> <th style="width: 15%; text-align: center;">Absolute % Cover</th> <th style="width: 15%; text-align: center;">Dominant Species?</th> <th style="width: 30%; text-align: center;">Indicator Status</th> </tr> </thead> <tbody> <tr> <td>1. <u>Liriodendron tulipifera</u></td> <td style="text-align: center;"><u>30%</u></td> <td style="text-align: center;"><u>YES</u></td> <td style="text-align: center;"><u>FACU</u></td> </tr> <tr> <td>2. <u>Fagus grandifolia</u></td> <td style="text-align: center;"><u>30%</u></td> <td style="text-align: center;"><u>YES</u></td> <td style="text-align: center;"><u>FACU</u></td> </tr> <tr><td>3. _____</td><td></td><td></td><td></td></tr> <tr><td>4. _____</td><td></td><td></td><td></td></tr> <tr><td>5. _____</td><td></td><td></td><td></td></tr> <tr><td>6. _____</td><td></td><td></td><td></td></tr> <tr> <td colspan="2" style="text-align: right;"><u>60%</u> = Total Cover</td> <td colspan="2"></td> </tr> <tr> <td colspan="2" style="text-align: right;">50% of total cover: <u>30%</u></td> <td colspan="2" style="text-align: right;">20% of total cover: <u>12%</u></td> </tr> </tbody> </table> <p><b>Sapling Stratum</b> (Plot size: <u>20'x20'</u> )</p> <table style="width: 100%; border-collapse: collapse;"> <tbody> <tr><td>1. _____</td><td></td><td></td><td></td></tr> <tr><td>2. _____</td><td></td><td></td><td></td></tr> <tr><td>3. _____</td><td></td><td></td><td></td></tr> <tr><td>4. _____</td><td></td><td></td><td></td></tr> <tr><td>5. _____</td><td></td><td></td><td></td></tr> <tr><td>6. _____</td><td></td><td></td><td></td></tr> <tr> <td colspan="2" style="text-align: right;">_____ = Total Cover</td> <td colspan="2"></td> </tr> <tr> <td colspan="2" style="text-align: right;">50% of total cover: _____</td> <td colspan="2" style="text-align: right;">20% of total cover: _____</td> </tr> </tbody> </table> <p><b>Shrub Stratum</b> (Plot size: <u>20'x20'</u> )</p> <table style="width: 100%; border-collapse: collapse;"> <tbody> <tr><td>1. _____</td><td></td><td></td><td></td></tr> <tr><td>2. _____</td><td></td><td></td><td></td></tr> <tr><td>3. _____</td><td></td><td></td><td></td></tr> <tr><td>4. _____</td><td></td><td></td><td></td></tr> <tr><td>5. _____</td><td></td><td></td><td></td></tr> <tr><td>6. _____</td><td></td><td></td><td></td></tr> <tr> <td colspan="2" style="text-align: right;">_____ = Total Cover</td> <td colspan="2"></td> </tr> <tr> <td colspan="2" style="text-align: right;">50% of total cover: _____</td> <td colspan="2" style="text-align: right;">20% of total cover: _____</td> </tr> </tbody> </table> <p><b>Herb Stratum</b> (Plot size: <u>20'x20'</u> )</p> <table style="width: 100%; border-collapse: collapse;"> <tbody> <tr> <td>1. <u>Polystichum acrostichoides</u></td> <td style="text-align: center;"><u>20%</u></td> <td style="text-align: center;"><u>YES</u></td> <td style="text-align: center;"><u>FACU</u></td> </tr> <tr><td>2. _____</td><td></td><td></td><td></td></tr> <tr><td>3. _____</td><td></td><td></td><td></td></tr> <tr><td>4. _____</td><td></td><td></td><td></td></tr> <tr><td>5. _____</td><td></td><td></td><td></td></tr> <tr><td>6. _____</td><td></td><td></td><td></td></tr> <tr><td>7. _____</td><td></td><td></td><td></td></tr> <tr><td>8. _____</td><td></td><td></td><td></td></tr> <tr><td>9. _____</td><td></td><td></td><td></td></tr> <tr><td>10. _____</td><td></td><td></td><td></td></tr> <tr><td>11. _____</td><td></td><td></td><td></td></tr> <tr> <td colspan="2" style="text-align: right;"><u>20%</u> = Total Cover</td> <td colspan="2"></td> </tr> <tr> <td colspan="2" style="text-align: right;">50% of total cover: <u>10%</u></td> <td colspan="2" style="text-align: right;">20% of total cover: <u>4%</u></td> </tr> </tbody> </table> <p><b>Woody Vine Stratum</b> (Plot size: <u>20'x20'</u> )</p> <table style="width: 100%; border-collapse: collapse;"> <tbody> <tr> <td>1. <u>Smilax rotundifolia</u></td> <td style="text-align: center;"><u>20%</u></td> <td style="text-align: center;"><u>YES</u></td> <td style="text-align: center;"><u>FAC</u></td> </tr> <tr><td>2. _____</td><td></td><td></td><td></td></tr> <tr><td>3. _____</td><td></td><td></td><td></td></tr> <tr><td>4. _____</td><td></td><td></td><td></td></tr> <tr><td>5. _____</td><td></td><td></td><td></td></tr> <tr> <td colspan="2" style="text-align: right;"><u>20%</u> = Total Cover</td> <td colspan="2"></td> </tr> <tr> <td colspan="2" style="text-align: right;">50% of total cover: <u>10%</u></td> <td colspan="2" style="text-align: right;">20% of total cover: <u>4%</u></td> </tr> </tbody> </table>		Absolute % Cover	Dominant Species?	Indicator Status	1. <u>Liriodendron tulipifera</u>	<u>30%</u>	<u>YES</u>	<u>FACU</u>	2. <u>Fagus grandifolia</u>	<u>30%</u>	<u>YES</u>	<u>FACU</u>	3. _____				4. _____				5. _____				6. _____				<u>60%</u> = Total Cover				50% of total cover: <u>30%</u>		20% of total cover: <u>12%</u>		1. _____				2. _____				3. _____				4. _____				5. _____				6. _____				_____ = Total Cover				50% of total cover: _____		20% of total cover: _____		1. _____				2. _____				3. _____				4. _____				5. _____				6. _____				_____ = Total Cover				50% of total cover: _____		20% of total cover: _____		1. <u>Polystichum acrostichoides</u>	<u>20%</u>	<u>YES</u>	<u>FACU</u>	2. _____				3. _____				4. _____				5. _____				6. _____				7. _____				8. _____				9. _____				10. _____				11. _____				<u>20%</u> = Total Cover				50% of total cover: <u>10%</u>		20% of total cover: <u>4%</u>		1. <u>Smilax rotundifolia</u>	<u>20%</u>	<u>YES</u>	<u>FAC</u>	2. _____				3. _____				4. _____				5. _____				<u>20%</u> = Total Cover				50% of total cover: <u>10%</u>		20% of total cover: <u>4%</u>		<p><b>Dominance Test worksheet:</b></p> <p>Number of Dominant Species That Are OBL, FACW, or FAC: <u>1</u> (A)</p> <p>Total Number of Dominant Species Across All Strata: <u>4</u> (B)</p> <p>Percent of Dominant Species That Are OBL, FACW, or FAC: <u>25%</u> (A/B)</p> <hr/> <p><b>Prevalence Index worksheet:</b></p> <table style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 40%;"></th> <th style="width: 10%; text-align: center;">Total % Cover of:</th> <th style="width: 10%;"></th> <th style="width: 10%; text-align: center;">Multiply by:</th> <th style="width: 30%;"></th> </tr> </thead> <tbody> <tr> <td>OBL species</td> <td style="text-align: center;"><u>0</u></td> <td></td> <td style="text-align: center;">x 1 =</td> <td style="text-align: center;"><u>0</u></td> </tr> <tr> <td>FACW species</td> <td style="text-align: center;"><u>0</u></td> <td></td> <td style="text-align: center;">x 2 =</td> <td style="text-align: center;"><u>0</u></td> </tr> <tr> <td>FAC species</td> <td style="text-align: center;"><u>20</u></td> <td></td> <td style="text-align: center;">x 3 =</td> <td style="text-align: center;"><u>60</u></td> </tr> <tr> <td>FACU species</td> <td style="text-align: center;"><u>80</u></td> <td></td> <td style="text-align: center;">x 4 =</td> <td style="text-align: center;"><u>320</u></td> </tr> <tr> <td>UPL species</td> <td style="text-align: center;"><u>0</u></td> <td></td> <td style="text-align: center;">x 5 =</td> <td style="text-align: center;"><u>0</u></td> </tr> <tr> <td>Column Totals:</td> <td style="text-align: center;"><u>100</u></td> <td style="text-align: center;">(A)</td> <td></td> <td style="text-align: center;"><u>380</u> (B)</td> </tr> <tr> <td colspan="5" style="text-align: right;">Prevalence Index = B/A = <u>3.80</u></td> </tr> </tbody> </table> <hr/> <p><b>Hydrophytic Vegetation Indicators:</b></p> <p><input type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation</p> <p><input type="checkbox"/> 2 - Dominance Test is &gt;50%</p> <p><input type="checkbox"/> 3 - Prevalence Index is ≤3.0<sup>1</sup></p> <p><input type="checkbox"/> 4 - Morphological Adaptations<sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)</p> <p><input type="checkbox"/> Problematic Hydrophytic Vegetation<sup>1</sup> (Explain)</p> <p><small><sup>1</sup>Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.</small></p> <hr/> <p><b>Definitions of Five Vegetation Strata:</b></p> <p><b>Tree</b> – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).</p> <p><b>Sapling</b> – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.</p> <p><b>Shrub</b> – Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.</p> <p><b>Herb</b> – All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately 3 ft (1 m) in height.</p> <p><b>Woody vine</b> – All woody vines, regardless of height.</p> <hr/> <p><b>Hydrophytic Vegetation Present?</b> Yes _____ No <u>X</u></p>		Total % Cover of:		Multiply by:		OBL species	<u>0</u>		x 1 =	<u>0</u>	FACW species	<u>0</u>		x 2 =	<u>0</u>	FAC species	<u>20</u>		x 3 =	<u>60</u>	FACU species	<u>80</u>		x 4 =	<u>320</u>	UPL species	<u>0</u>		x 5 =	<u>0</u>	Column Totals:	<u>100</u>	(A)		<u>380</u> (B)	Prevalence Index = B/A = <u>3.80</u>				
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Remarks: (Include photo numbers here or on a separate sheet.)

## SOIL

Sampling Point: DP-14, UPL

[illegible]

# WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

Project/Site: Cumberland County Property City/County: Cumberland County Sampling Date: 4/25/2018  
 Applicant/Owner: CWV, LLC; c/o James H. Martin State: VA Sampling Point: DP-15  
 Investigator(s): Hannah L. Miller Section, Township, Range: Tax Map # 45-2-2-B  
 Landform (hillslope, terrace, etc.): Floodplain Local relief (concave, convex, none): \_\_\_\_\_ Slope (%): 2-4%  
 Subregion (LRR or MLRA): n/a Lat: 37.554954687 Long: -78.110977548 Datum: \_\_\_\_\_  
 Soil Map Unit Name: Helena sandy loam NWI classification: R3

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ☒ No \_\_\_\_\_ (If no, explain in Remarks.)  
 Are Vegetation \_\_\_\_\_, Soil \_\_\_\_\_, or Hydrology \_\_\_\_\_ significantly disturbed? Are "Normal Circumstances" present? Yes ☒ No \_\_\_\_\_  
 Are Vegetation \_\_\_\_\_, Soil \_\_\_\_\_, or Hydrology \_\_\_\_\_ naturally problematic? (If needed, explain any answers in Remarks.)

## SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No _____ Hydric Soil Present? Yes <input checked="" type="checkbox"/> No _____ Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No _____	Is the Sampled Area within a Wetland? Yes <input checked="" type="checkbox"/> No _____
Remarks:  Data point was taken next to flag J-47.	

## HYDROLOGY

<b>Wetland Hydrology Indicators:</b> <u>Primary Indicators (minimum of one is required; check all that apply)</u> <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> True Aquatic Plants (B14) <input checked="" type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input checked="" type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> Aquatic Fauna (B13)		<u>Secondary Indicators (minimum of two required)</u> <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <input checked="" type="checkbox"/> Drainage Patterns (B10) <input checked="" type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input checked="" type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> Microtopographic Relief (D4) <input type="checkbox"/> FAC-Neutral Test (D5)
<b>Field Observations:</b> Surface Water Present? Yes _____ No <input checked="" type="checkbox"/> Depth (inches): _____ Water Table Present? Yes <input checked="" type="checkbox"/> No _____ Depth (inches): <u>6"</u> Saturation Present? Yes _____ No <input checked="" type="checkbox"/> Depth (inches): _____ (includes capillary fringe)	Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No _____	
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:		
Remarks:		

**VEGETATION (Five Strata) – Use scientific names of plants.**

 Sampling Point: DP-15

Tree Stratum (Plot size: <u>20'x20'</u> )	Absolute % Cover	Dominant Species?	Indicator Status	
1. <u>Carpinus caroliniana</u>	15%	YES	FAC	<b>Dominance Test worksheet:</b> Number of Dominant Species That Are OBL, FACW, or FAC: <u>6</u> (A)  Total Number of Dominant Species Across All Strata: <u>6</u> (B)  Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100%</u> (A/B)
2. <u>Acer rubrum</u>	15%	YES	FAC	
3. _____				
4. _____				
5. _____				
6. _____				
30% = Total Cover				<b>Prevalence Index worksheet:</b> Total % Cover of: _____ Multiply by: OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: _____ (A) _____ (B)  Prevalence Index = B/A = _____
50% of total cover: <u>15%</u> 20% of total cover: <u>6%</u>				
<b>Sapling Stratum</b> (Plot size: <u>20'x20'</u> )				
1. <u>Betula nigra</u>	20%	YES	FACW	
2. <u>Carpinus caroliniana</u>	20%	YES	FAC	
3. _____				
40% = Total Cover				
50% of total cover: <u>20%</u> 20% of total cover: <u>8%</u>				
<b>Shrub Stratum</b> (Plot size: <u>20'x20'</u> )				<b>Hydrophytic Vegetation Indicators:</b> <input type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation <input checked="" type="checkbox"/> 2 - Dominance Test is >50% <input type="checkbox"/> 3 - Prevalence Index is ≤3.0 <sup>1</sup> <input type="checkbox"/> 4 - Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)  <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
1. _____				
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_____ = Total Cover				
50% of total cover: _____ 20% of total cover: _____				
<b>Herb Stratum</b> (Plot size: <u>20'x20'</u> )				<b>Definitions of Five Vegetation Strata:</b>  <b>Tree</b> – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).  <b>Sapling</b> – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.  <b>Shrub</b> – Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.  <b>Herb</b> – All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately 3 ft (1 m) in height.  <b>Woody vine</b> – All woody vines, regardless of height.
1. <u>Juncus effusus</u>	15%	YES	FACW	
2. _____				
3. _____				
4. _____				
5. _____				
15% = Total Cover				
50% of total cover: <u>7.5%</u> 20% of total cover: <u>3%</u>				
<b>Woody Vine Stratum</b> (Plot size: <u>20'x20'</u> )				<b>Hydrophytic Vegetation Present?</b> Yes <u>X</u> No _____
1. <u>Vitis riparia</u>	15%	YES	FACW	
2. _____				
3. _____				
4. _____				
5. _____				
_____ = Total Cover				
50% of total cover: _____ 20% of total cover: _____				
Remarks: (Include photo numbers here or on a separate sheet.)				

## SOIL

Sampling Point: DP-15

[illegible]

# WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

Project/Site: Cumberland County Property City/County: Cumberland County Sampling Date: 4/25/2018  
 Applicant/Owner: CWV, LLC; c/o James H. Martin State: VA Sampling Point: DP-15, UPL  
 Investigator(s): Hannah L. Miller Section, Township, Range: Tax Map #45-2-2-B  
 Landform (hillslope, terrace, etc.): Hillslope/Toe of Slope Local relief (concave, convex, none): \_\_\_\_\_ Slope (%): 3-5%  
 Subregion (LRR or MLRA): n/a Lat: 37.554954687 Long: -78.110977548 Datum: \_\_\_\_\_  
 Soil Map Unit Name: Helena sandy loam NWI classification: UPL

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ☒ No \_\_\_\_\_ (If no, explain in Remarks.)  
 Are Vegetation \_\_\_\_\_, Soil \_\_\_\_\_, or Hydrology \_\_\_\_\_ significantly disturbed? Are "Normal Circumstances" present? Yes ☒ No \_\_\_\_\_  
 Are Vegetation \_\_\_\_\_, Soil \_\_\_\_\_, or Hydrology \_\_\_\_\_ naturally problematic? (If needed, explain any answers in Remarks.)

## SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes _____ No <input checked="" type="checkbox"/> Hydric Soil Present? Yes _____ No <input checked="" type="checkbox"/> Wetland Hydrology Present? Yes _____ No <input checked="" type="checkbox"/>	Is the Sampled Area within a Wetland? Yes _____ No <input checked="" type="checkbox"/>
Remarks:  Data point was taken adjacent to flag J-47.	

## HYDROLOGY

<b>Wetland Hydrology Indicators:</b> <u>Primary Indicators (minimum of one is required; check all that apply)</u> <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> True Aquatic Plants (B14) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> Aquatic Fauna (B13)		<u>Secondary Indicators (minimum of two required)</u> <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> Microtopographic Relief (D4) <input type="checkbox"/> FAC-Neutral Test (D5)
<b>Field Observations:</b> Surface Water Present? Yes _____ No <input checked="" type="checkbox"/> Depth (inches): _____ Water Table Present? Yes _____ No <input checked="" type="checkbox"/> Depth (inches): _____ Saturation Present? Yes _____ No <input checked="" type="checkbox"/> Depth (inches): _____ (includes capillary fringe)	Wetland Hydrology Present? Yes _____ No <input checked="" type="checkbox"/>	
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:		
Remarks:		



**VEGETATION (Five Strata) – Use scientific names of plants.**

 Sampling Point: DP-15, UPL

Tree Stratum (Plot size: <u>20'x20'</u> )	Absolute % Cover	Dominant Species?	Indicator Status															
1. <u>Liriodendron tulipifera</u>	<u>20%</u>	<u>YES</u>	<u>FACU</u>	<b>Dominance Test worksheet:</b> Number of Dominant Species That Are OBL, FACW, or FAC: <u>1</u> (A)  Total Number of Dominant Species Across All Strata: <u>6</u> (B)  Percent of Dominant Species That Are OBL, FACW, or FAC: <u>16%</u> (A/B)														
2. <u>Fagus grandifolia</u>	<u>25%</u>	<u>YES</u>	<u>FACU</u>															
3. _____																		
4. _____																		
5. _____																		
6. _____																		
<u>45%</u> = Total Cover				<b>Prevalence Index worksheet:</b> <table style="width: 100%;"> <tr> <td style="width: 50%;">Total % Cover of:</td> <td style="width: 50%;">Multiply by:</td> </tr> <tr> <td>OBL species <u>0</u></td> <td>x 1 = <u>0</u></td> </tr> <tr> <td>FACW species <u>0</u></td> <td>x 2 = <u>0</u></td> </tr> <tr> <td>FAC species <u>15</u></td> <td>x 3 = <u>45</u></td> </tr> <tr> <td>FACU species <u>60</u></td> <td>x 4 = <u>240</u></td> </tr> <tr> <td>UPL species <u>25</u></td> <td>x 5 = <u>125</u></td> </tr> <tr> <td>Column Totals: <u>100</u> (A)</td> <td><u>410</u> (B)</td> </tr> </table> Prevalence Index = B/A = <u>4.10</u>	Total % Cover of:	Multiply by:	OBL species <u>0</u>	x 1 = <u>0</u>	FACW species <u>0</u>	x 2 = <u>0</u>	FAC species <u>15</u>	x 3 = <u>45</u>	FACU species <u>60</u>	x 4 = <u>240</u>	UPL species <u>25</u>	x 5 = <u>125</u>	Column Totals: <u>100</u> (A)	<u>410</u> (B)
Total % Cover of:	Multiply by:																	
OBL species <u>0</u>	x 1 = <u>0</u>																	
FACW species <u>0</u>	x 2 = <u>0</u>																	
FAC species <u>15</u>	x 3 = <u>45</u>																	
FACU species <u>60</u>	x 4 = <u>240</u>																	
UPL species <u>25</u>	x 5 = <u>125</u>																	
Column Totals: <u>100</u> (A)	<u>410</u> (B)																	
50% of total cover: <u>22.5%</u> 20% of total cover: <u>9%</u>																		
Sapling Stratum (Plot size: <u>20'x20'</u> )																		
1. <u>Fagus grandifolia</u>	<u>15%</u>	<u>YES</u>	<u>FAC</u>															
2. _____																		
3. _____																		
4. _____																		
5. _____																		
6. _____																		
<u>15%</u> = Total Cover																		
50% of total cover: <u>7.5%</u> 20% of total cover: <u>3%</u>																		
Shrub Stratum (Plot size: <u>20'x20'</u> )																		
1. _____																		
2. _____																		
3. _____																		
4. _____																		
5. _____																		
6. _____																		
_____ = Total Cover																		
50% of total cover: _____ 20% of total cover: _____																		
Herb Stratum (Plot size: <u>20'x20'</u> )																		
1. <u>Polystichum acrostichoides</u>	<u>15%</u>	<u>YES</u>	<u>FACU</u>	<b>Definitions of Five Vegetation Strata:</b>  <b>Tree</b> – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).  <b>Sapling</b> – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.  <b>Shrub</b> – Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.  <b>Herb</b> – All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately 3 ft (1 m) in height.  <b>Woody vine</b> – All woody vines, regardless of height.														
2. <u>Sanguinaria canadensis</u>	<u>10%</u>	<u>YES</u>	<u>UPL</u>															
3. <u>Oxalis violacea</u>	<u>15%</u>	<u>YES</u>	<u>UPL</u>															
4. _____																		
5. _____																		
6. _____																		
7. _____																		
8. _____																		
9. _____																		
10. _____																		
11. _____																		
<u>40%</u> = Total Cover																		
50% of total cover: <u>20%</u> 20% of total cover: <u>8%</u>																		
Woody Vine Stratum (Plot size: <u>20'x20'</u> )																		
1. _____																		
2. _____																		
3. _____																		
4. _____																		
5. _____																		
_____ = Total Cover																		
50% of total cover: _____ 20% of total cover: _____																		
Remarks: (Include photo numbers here or on a separate sheet.)																		

## SOIL

Sampling Point: DP-15, UPL

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)								
Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>		
0-4	10YR 5/2	100					Sandy Loam	
4-18	10YR 6/3	100					Sandy Loam	

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.

<sup>2</sup>Location: PL=Pore Lining, M=Matrix.

<b>Hydric Soil Indicators:</b>		<b>Indicators for Problematic Hydric Soils<sup>3</sup>:</b>	
<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Dark Surface (S7)	<input type="checkbox"/> 2 cm Muck (A10) ( <b>MLRA 147</b> )	
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Polyvalue Below Surface (S8) ( <b>MLRA 147, 148</b> )	<input type="checkbox"/> Coast Prairie Redox (A16)	
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Thin Dark Surface (S9) ( <b>MLRA 147, 148</b> )	<input type="checkbox"/> ( <b>MLRA 147, 148</b> )	
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Piedmont Floodplain Soils (F19)	
<input type="checkbox"/> Stratified Layers (A5)	<input type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> ( <b>MLRA 136, 147</b> )	
<input type="checkbox"/> 2 cm Muck (A10) ( <b>LRR N</b> )	<input type="checkbox"/> Redox Dark Surface (F6)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)	
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Dark Surface (F7)	<input type="checkbox"/> Other (Explain in Remarks)	
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Redox Depressions (F8)		
<input type="checkbox"/> Sandy Mucky Mineral (S1) ( <b>LRR N,</b>	<input type="checkbox"/> Iron-Manganese Masses (F12) ( <b>LRR N,</b>		
<input type="checkbox"/> <b>MLRA 147, 148</b> )	<input type="checkbox"/> <b>MLRA 136</b> )		
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Umbric Surface (F13) ( <b>MLRA 136, 122</b> )		
<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) ( <b>MLRA 148</b> )		
<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Red Parent Material (F21) ( <b>MLRA 127, 147</b> )		

**Restrictive Layer (if observed):**

Type: \_\_\_\_\_

Depth (inches): \_\_\_\_\_

Hydric Soil Present?

Yes \_\_\_\_\_ No ☒

Remarks:

# WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

Project/Site: Cumberland County Property City/County: Cumberland County Sampling Date: 4/25/2018  
Applicant/Owner: CWV, LLC; c/o James H. Martin State: VA Sampling Point: DP-16  
Investigator(s): Hannah L. Miller Section, Township, Range: Tax Map # 45-2-2-B  
Landform (hillslope, terrace, etc.): Floodplain Local relief (concave, convex, none): \_\_\_\_\_ Slope (%): 2-4%  
Subregion (LRR or MLRA): n/a Lat: 37.554727859 Long: -78.110749076 Datum: \_\_\_\_\_  
Soil Map Unit Name: Helena sandy loam NWI classification: PFO  
Are climatic / hydrologic conditions on the site typical for this time of year? Yes ☒ No \_\_\_\_\_ (If no, explain in Remarks.)  
Are Vegetation \_\_\_\_\_, Soil \_\_\_\_\_, or Hydrology \_\_\_\_\_ significantly disturbed? Are "Normal Circumstances" present? Yes ☒ No \_\_\_\_\_  
Are Vegetation \_\_\_\_\_, Soil \_\_\_\_\_, or Hydrology \_\_\_\_\_ naturally problematic? (If needed, explain any answers in Remarks.)

## SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No _____	Is the Sampled Area within a Wetland? Yes <input checked="" type="checkbox"/> No _____
Hydric Soil Present? Yes <input checked="" type="checkbox"/> No _____	
Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No _____	
Remarks:  Data point was taken next to flag J-52.	

## HYDROLOGY

<b>Wetland Hydrology Indicators:</b>		<b>Secondary Indicators (minimum of two required)</b>
<u>Primary Indicators (minimum of one is required; check all that apply)</u>		
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> True Aquatic Plants (B14)	<input type="checkbox"/> Surface Soil Cracks (B6)
<input checked="" type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)
<input checked="" type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3)	<input checked="" type="checkbox"/> Drainage Patterns (B10)
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input checked="" type="checkbox"/> Moss Trim Lines (B16)
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	<input type="checkbox"/> Dry-Season Water Table (C2)
<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Thin Muck Surface (C7)	<input type="checkbox"/> Crayfish Burrows (C8)
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)
<input type="checkbox"/> Iron Deposits (B5)		<input type="checkbox"/> Stunted or Stressed Plants (D1)
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)		<input checked="" type="checkbox"/> Geomorphic Position (D2)
<input checked="" type="checkbox"/> Water-Stained Leaves (B9)		<input type="checkbox"/> Shallow Aquitard (D3)
<input type="checkbox"/> Aquatic Fauna (B13)		<input type="checkbox"/> Microtopographic Relief (D4)
		<input type="checkbox"/> FAC-Neutral Test (D5)
<b>Field Observations:</b>		
Surface Water Present? Yes <input checked="" type="checkbox"/> No _____ Depth (inches): <u>0"</u>	Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No _____	
Water Table Present? Yes <input checked="" type="checkbox"/> No _____ Depth (inches): <u>4"</u>		
Saturation Present? Yes <input checked="" type="checkbox"/> No _____ Depth (inches): <u>6"</u> (includes capillary fringe)		
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:		
Remarks:		

**VEGETATION (Five Strata) – Use scientific names of plants.**

 Sampling Point: DP-16

Tree Stratum (Plot size: <u>20'x20'</u> )	Absolute % Cover	Dominant Species?	Indicator Status	
1. <u>Betula nigra</u>	<u>15%</u>	<u>YES</u>	<u>FAC</u>	<b>Dominance Test worksheet:</b> Number of Dominant Species That Are OBL, FACW, or FAC: <u>7</u> (A)  Total Number of Dominant Species Across All Strata: <u>7</u> (B)  Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100%</u> (A/B)
2. <u>Liquidambar styraciflua</u>	<u>10%</u>	<u>YES</u>	<u>FAC</u>	
3. _____				
4. _____				
5. _____				
6. _____				
<u>25%</u> = Total Cover				<b>Prevalence Index worksheet:</b> Total % Cover of: _____ Multiply by: OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: _____ (A) _____ (B)  Prevalence Index = B/A = _____
50% of total cover: <u>12.5%</u> 20% of total cover: <u>5%</u>				
<b>Sapling Stratum</b> (Plot size: <u>20'x20'</u> )				
1. <u>Betula nigra</u>	<u>10%</u>	<u>YES</u>	<u>FACW</u>	
2. <u>Acer rubrum</u>	<u>20%</u>	<u>YES</u>	<u>FAC</u>	
3. <u>Carpinus caroliniana</u>	<u>15%</u>	<u>YES</u>	<u>FAC</u>	
<u>45%</u> = Total Cover				
50% of total cover: <u>22.5%</u> 20% of total cover: <u>9%</u>				
<b>Shrub Stratum</b> (Plot size: <u>20'x20'</u> )				<b>Hydrophytic Vegetation Indicators:</b> <input type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation <input checked="" type="checkbox"/> 2 - Dominance Test is >50% <input type="checkbox"/> 3 - Prevalence Index is ≤3.0 <sup>1</sup> <input type="checkbox"/> 4 - Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)  <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
1. _____				
2. _____				
3. _____				
4. _____				
5. _____				
_____ = Total Cover				
50% of total cover: _____ 20% of total cover: _____				
<b>Herb Stratum</b> (Plot size: <u>20'x20'</u> )				<b>Definitions of Five Vegetation Strata:</b>  <b>Tree</b> – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).  <b>Sapling</b> – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.  <b>Shrub</b> – Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.  <b>Herb</b> – All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately 3 ft (1 m) in height.  <b>Woody vine</b> – All woody vines, regardless of height.
1. <u>Peltandra virginica</u>	<u>15%</u>	<u>YES</u>	<u>OBL</u>	
2. _____				
3. _____				
4. _____				
5. _____				
_____ = Total Cover				
50% of total cover: <u>7.5%</u> 20% of total cover: <u>3%</u>				
<b>Woody Vine Stratum</b> (Plot size: <u>20'x20'</u> )				<b>Hydrophytic Vegetation Present?</b> Yes <u>X</u> No _____
1. <u>Vitis riparia</u>	<u>15%</u>	<u>YES</u>	<u>FACW</u>	
2. _____				
3. _____				
4. _____				
5. _____				
<u>15%</u> = Total Cover				
50% of total cover: <u>7.5%</u> 20% of total cover: <u>3%</u>				
Remarks: (Include photo numbers here or on a separate sheet.)				

## SOIL

Sampling Point: DP-16

[illegible]

# WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

Project/Site: Cumberland County Property City/County: Cumberland County Sampling Date: 4/25/2018  
 Applicant/Owner: CWV, LLC; c/o James H. Martin State: VA Sampling Point: DP-16, UPL  
 Investigator(s): Hannah L. Miller Section, Township, Range: Tax Map #45-2-2-B  
 Landform (hillslope, terrace, etc.): Hillslope Local relief (concave, convex, none): \_\_\_\_\_ Slope (%): 2-4%  
 Subregion (LRR or MLRA): n/a Lat: 37.554727859 Long: -78.110749076 Datum: \_\_\_\_\_  
 Soil Map Unit Name: Helena sandy loam NWI classification: UPL

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ☒ No \_\_\_\_\_ (If no, explain in Remarks.)  
 Are Vegetation \_\_\_\_\_, Soil \_\_\_\_\_, or Hydrology \_\_\_\_\_ significantly disturbed? Are "Normal Circumstances" present? Yes ☒ No \_\_\_\_\_  
 Are Vegetation \_\_\_\_\_, Soil \_\_\_\_\_, or Hydrology \_\_\_\_\_ naturally problematic? (If needed, explain any answers in Remarks.)

## SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes _____ No <input checked="" type="checkbox"/> Hydric Soil Present? Yes _____ No <input checked="" type="checkbox"/> Wetland Hydrology Present? Yes _____ No <input checked="" type="checkbox"/>	Is the Sampled Area within a Wetland? Yes _____ No <input checked="" type="checkbox"/>
Remarks:  Data point was taken adjacent to flag J-52.	

## HYDROLOGY

<b>Wetland Hydrology Indicators:</b> <u>Primary Indicators (minimum of one is required; check all that apply)</u> <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> True Aquatic Plants (B14) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> Aquatic Fauna (B13)		<u>Secondary Indicators (minimum of two required)</u> <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> Microtopographic Relief (D4) <input type="checkbox"/> FAC-Neutral Test (D5)
<b>Field Observations:</b> Surface Water Present? Yes _____ No <input checked="" type="checkbox"/> Depth (inches): _____ Water Table Present? Yes _____ No <input checked="" type="checkbox"/> Depth (inches): _____ Saturation Present? Yes _____ No <input checked="" type="checkbox"/> Depth (inches): _____ (includes capillary fringe)	Wetland Hydrology Present? Yes _____ No <input checked="" type="checkbox"/>	
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:		
Remarks:		

**VEGETATION (Five Strata) – Use scientific names of plants.**

 Sampling Point: DP-16, UPL

<p><b>Tree Stratum</b> (Plot size: <u>20'x20'</u> )</p> <table style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 40%;"></th> <th style="width: 10%; text-align: center;">Absolute % Cover</th> <th style="width: 10%; text-align: center;">Dominant Species?</th> <th style="width: 10%; text-align: center;">Indicator Status</th> </tr> </thead> <tbody> <tr><td>1. <u>Liriodendron tulipifera</u></td><td style="text-align: center;"><u>20%</u></td><td style="text-align: center;"><u>YES</u></td><td style="text-align: center;"><u>FACU</u></td></tr> <tr><td>2. <u>Fagus grandifolia</u></td><td style="text-align: center;"><u>10%</u></td><td style="text-align: center;"><u>YES</u></td><td style="text-align: center;"><u>FACU</u></td></tr> <tr><td>3. _____</td><td></td><td></td><td></td></tr> <tr><td>4. _____</td><td></td><td></td><td></td></tr> <tr><td>5. _____</td><td></td><td></td><td></td></tr> <tr><td>6. _____</td><td></td><td></td><td></td></tr> <tr><td colspan="4" style="text-align: right;"><u>30%</u> = Total Cover</td></tr> <tr><td colspan="4" style="text-align: right;">50% of total cover: <u>15%</u> 20% of total cover: <u>6%</u></td></tr> </tbody> </table> <p><b>Sapling Stratum</b> (Plot size: <u>20'x20'</u> )</p> <table style="width: 100%; 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(7.6 cm) or larger in diameter at breast height (DBH).</p> <p><b>Sapling</b> – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.</p> <p><b>Shrub</b> – Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.</p> <p><b>Herb</b> – All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately 3 ft (1 m) in height.</p> <p><b>Woody vine</b> – All woody vines, regardless of height.</p> <p><b>Hydrophytic Vegetation Present?</b> Yes <u>      </u> No <u>X</u></p>		Total % Cover of:		Multiply by:			OBL species	<u>0</u>		x 1 =	<u>0</u>		FACW species	<u>0</u>		x 2 =	<u>0</u>		FAC species	<u>10</u>		x 3 =	<u>30</u>		FACU species	<u>70</u>		x 4 =	<u>280</u>		UPL species	<u>20</u>		x 5 =	<u>100</u>		Column Totals:	<u>100</u>	(A)		<u>410</u>	(B)
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Remarks: (Include photo numbers here or on a separate sheet.)

## SOIL

Sampling Point: DP-16, UPL

[illegible]



# WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

Project/Site: Cumberland County Property City/County: Cumberland County Sampling Date: 4/25/2018  
 Applicant/Owner: CWV, LLC; c/o James H. Martin State: VA Sampling Point: DP-17  
 Investigator(s): Hannah L. Miller Section, Township, Range: Tax Map # 45-2-2-B  
 Landform (hillslope, terrace, etc.): Floodplain Local relief (concave, convex, none): \_\_\_\_\_ Slope (%): 0-3%  
 Subregion (LRR or MLRA): n/a Lat: 37.555110812 Long: -78.108852923 Datum: \_\_\_\_\_  
 Soil Map Unit Name: Chewacla and Monocan soils NWI classification: PEM  
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes ☒ No \_\_\_\_\_ (If no, explain in Remarks.)  
 Are Vegetation \_\_\_\_\_, Soil \_\_\_\_\_, or Hydrology \_\_\_\_\_ significantly disturbed? Are "Normal Circumstances" present? Yes ☒ No \_\_\_\_\_  
 Are Vegetation \_\_\_\_\_, Soil \_\_\_\_\_, or Hydrology \_\_\_\_\_ naturally problematic? (If needed, explain any answers in Remarks.)

## SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No _____ Hydric Soil Present? Yes <input checked="" type="checkbox"/> No _____ Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No _____	Is the Sampled Area within a Wetland? Yes <input checked="" type="checkbox"/> No _____
Remarks:  Data point was taken next to flag L-9.	

## HYDROLOGY

<b>Wetland Hydrology Indicators:</b> <u>Primary Indicators (minimum of one is required; check all that apply)</u> <input checked="" type="checkbox"/> Surface Water (A1) _____ True Aquatic Plants (B14) <input checked="" type="checkbox"/> High Water Table (A2) _____ Hydrogen Sulfide Odor (C1) <input checked="" type="checkbox"/> Saturation (A3) _____ Oxidized Rhizospheres on Living Roots (C3) _____ Water Marks (B1) _____ Presence of Reduced Iron (C4) _____ Sediment Deposits (B2) _____ Recent Iron Reduction in Tilled Soils (C6) _____ Drift Deposits (B3) _____ Thin Muck Surface (C7) _____ Algal Mat or Crust (B4) _____ Other (Explain in Remarks) _____ Iron Deposits (B5) _____ Inundation Visible on Aerial Imagery (B7) <input checked="" type="checkbox"/> Water-Stained Leaves (B9) _____ Aquatic Fauna (B13)		<u>Secondary Indicators (minimum of two required)</u> _____ Surface Soil Cracks (B6) _____ Sparsely Vegetated Concave Surface (B8) <input checked="" type="checkbox"/> Drainage Patterns (B10) <input checked="" type="checkbox"/> Moss Trim Lines (B16) _____ Dry-Season Water Table (C2) <input checked="" type="checkbox"/> Crayfish Burrows (C8) _____ Saturation Visible on Aerial Imagery (C9) _____ Stunted or Stressed Plants (D1) <input checked="" type="checkbox"/> Geomorphic Position (D2) _____ Shallow Aquitard (D3) _____ Microtopographic Relief (D4) _____ FAC-Neutral Test (D5)
<b>Field Observations:</b> Surface Water Present? Yes <input checked="" type="checkbox"/> No _____ Depth (inches): <u>0"</u> Water Table Present? Yes <input checked="" type="checkbox"/> No _____ Depth (inches): <u>6"</u> Saturation Present? Yes <input checked="" type="checkbox"/> No _____ Depth (inches): <u>8"</u> (includes capillary fringe)	Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No _____	
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:		
Remarks:		

**VEGETATION (Five Strata) – Use scientific names of plants.**

 Sampling Point: DP-17

Tree Stratum (Plot size: <u>20'x20'</u> )	Absolute % Cover	Dominant Species?	Indicator Status	
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
_____ = Total Cover				
50% of total cover: _____ 20% of total cover: _____				
Sapling Stratum (Plot size: <u>20'x20'</u> )				
1. <u>Carpinus caroliniana</u>	<u>10%</u>	<u>YES</u>	<u>FAC</u>	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
_____ = Total Cover				
50% of total cover: <u>5%</u> 20% of total cover: <u>2%</u>				
Shrub Stratum (Plot size: <u>20'x20'</u> )				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
_____ = Total Cover				
50% of total cover: _____ 20% of total cover: _____				
Herb Stratum (Plot size: <u>20'x20'</u> )				
1. <u>Juncus effusus</u>	<u>90%</u>	<u>YES</u>	<u>FACW</u>	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
11. _____	_____	_____	_____	
_____ = Total Cover				
50% of total cover: <u>45%</u> 20% of total cover: <u>18%</u>				
Woody Vine Stratum (Plot size: <u>20'x20'</u> )				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
_____ = Total Cover				
50% of total cover: _____ 20% of total cover: _____				
<b>Remarks:</b> (Include photo numbers here or on a separate sheet.)				

**Dominance Test worksheet:**  
 Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)  
 Total Number of Dominant Species Across All Strata: 2 (B)  
 Percent of Dominant Species That Are OBL, FACW, or FAC: 100% (A/B)

**Prevalence Index worksheet:**  

Total % Cover of:	Multiply by:
OBL species _____	x 1 = _____
FACW species _____	x 2 = _____
FAC species _____	x 3 = _____
FACU species _____	x 4 = _____
UPL species _____	x 5 = _____
Column Totals: _____	(A) _____ (B) _____
Prevalence Index = B/A = _____	

**Hydrophytic Vegetation Indicators:**  
☐ 1 - Rapid Test for Hydrophytic Vegetation  
☒ 2 - Dominance Test is >50%  
☐ 3 - Prevalence Index is ≤3.0<sup>1</sup>  
☐ 4 - Morphological Adaptations<sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)  
☐ Problematic Hydrophytic Vegetation<sup>1</sup> (Explain)  
  
<sup>1</sup>Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

**Definitions of Five Vegetation Strata:**  
**Tree** – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).  
**Sapling** – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.  
**Shrub** – Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.  
**Herb** – All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately 3 ft (1 m) in height.  
**Woody vine** – All woody vines, regardless of height.

**Hydrophytic Vegetation Present?** Yes ☒ No ☐

## SOIL

Sampling Point: DP-17

[illegible]

# WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

Project/Site: Cumberland County Property City/County: Cumberland County Sampling Date: 4/25/2018  
 Applicant/Owner: CWV, LLC; c/o James H. Martin State: VA Sampling Point: DP-17, UPL  
 Investigator(s): Hannah L. Miller Section, Township, Range: Tax Map # 45-2-2-B  
 Landform (hillslope, terrace, etc.): Hillslope/Toe of Slope Local relief (concave, convex, none): \_\_\_\_\_ Slope (%): 3-5%  
 Subregion (LRR or MLRA): n/a Lat: 37.555110812 Long: -78.108852923 Datum: \_\_\_\_\_  
 Soil Map Unit Name: Chewacla and Monocan Soils NWI classification: UPL  
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes ☒ No \_\_\_\_\_ (If no, explain in Remarks.)  
 Are Vegetation \_\_\_\_\_, Soil \_\_\_\_\_, or Hydrology \_\_\_\_\_ significantly disturbed? Are "Normal Circumstances" present? Yes ☒ No \_\_\_\_\_  
 Are Vegetation \_\_\_\_\_, Soil \_\_\_\_\_, or Hydrology \_\_\_\_\_ naturally problematic? (If needed, explain any answers in Remarks.)

## SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes _____ No <input checked="" type="checkbox"/> Hydric Soil Present? Yes _____ No <input checked="" type="checkbox"/> Wetland Hydrology Present? Yes _____ No <input checked="" type="checkbox"/>	Is the Sampled Area within a Wetland? Yes _____ No <input checked="" type="checkbox"/>
Remarks:  Data point was taken adjacent to flag L-9.	

## HYDROLOGY

<b>Wetland Hydrology Indicators:</b> <u>Primary Indicators (minimum of one is required; check all that apply)</u> <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> True Aquatic Plants (B14) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> Aquatic Fauna (B13)		<u>Secondary Indicators (minimum of two required)</u> <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> Microtopographic Relief (D4) <input type="checkbox"/> FAC-Neutral Test (D5)
<b>Field Observations:</b> Surface Water Present? Yes _____ No <input checked="" type="checkbox"/> Depth (inches): _____ Water Table Present? Yes _____ No <input checked="" type="checkbox"/> Depth (inches): _____ Saturation Present? Yes _____ No <input checked="" type="checkbox"/> Depth (inches): _____ (includes capillary fringe)	Wetland Hydrology Present? Yes _____ No <input checked="" type="checkbox"/>	
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:		
Remarks:		

**VEGETATION (Five Strata) – Use scientific names of plants.**

 Sampling Point: DP-17, UPL

Tree Stratum (Plot size: <u>20'x20'</u> )	Absolute % Cover	Dominant Species?	Indicator Status															
1. <u>Liriodendron tulipifera</u>	<u>30%</u>	<u>YES</u>	<u>FACU</u>	<b>Dominance Test worksheet:</b> Number of Dominant Species That Are OBL, FACW, or FAC: <u>1</u> (A)  Total Number of Dominant Species Across All Strata: <u>4</u> (B)  Percent of Dominant Species That Are OBL, FACW, or FAC: <u>25%</u> (A/B)														
2. <u>Fagus grandifolia</u>	<u>35%</u>	<u>YES</u>	<u>FACU</u>															
3. _____																		
4. _____																		
5. _____																		
6. _____																		
<u>65%</u> = Total Cover				<b>Prevalence Index worksheet:</b> <table style="width: 100%;"> <tr> <th style="width: 50%;">Total % Cover of:</th> <th style="width: 50%;">Multiply by:</th> </tr> <tr> <td>OBL species <u>0</u></td> <td>x 1 = <u>0</u></td> </tr> <tr> <td>FACW species <u>0</u></td> <td>x 2 = <u>0</u></td> </tr> <tr> <td>FAC species <u>25</u></td> <td>x 3 = <u>75</u></td> </tr> <tr> <td>FACU species <u>75</u></td> <td>x 4 = <u>300</u></td> </tr> <tr> <td>UPL species <u>0</u></td> <td>x 5 = <u>0</u></td> </tr> <tr> <td>Column Totals: <u>100</u> (A)</td> <td><u>375</u> (B)</td> </tr> </table> Prevalence Index = B/A = <u>3.75</u>	Total % Cover of:	Multiply by:	OBL species <u>0</u>	x 1 = <u>0</u>	FACW species <u>0</u>	x 2 = <u>0</u>	FAC species <u>25</u>	x 3 = <u>75</u>	FACU species <u>75</u>	x 4 = <u>300</u>	UPL species <u>0</u>	x 5 = <u>0</u>	Column Totals: <u>100</u> (A)	<u>375</u> (B)
Total % Cover of:	Multiply by:																	
OBL species <u>0</u>	x 1 = <u>0</u>																	
FACW species <u>0</u>	x 2 = <u>0</u>																	
FAC species <u>25</u>	x 3 = <u>75</u>																	
FACU species <u>75</u>	x 4 = <u>300</u>																	
UPL species <u>0</u>	x 5 = <u>0</u>																	
Column Totals: <u>100</u> (A)	<u>375</u> (B)																	
50% of total cover: <u>32.5%</u> 20% of total cover: <u>13%</u>																		
<b>Sapling Stratum</b> (Plot size: <u>20'x20'</u> )																		
1. <u>Ilex opaca</u>	<u>25%</u>	<u>YES</u>	<u>FAC</u>															
2. _____																		
3. _____																		
4. _____																		
5. _____																		
6. _____																		
<u>25%</u> = Total Cover																		
50% of total cover: <u>12.5%</u> 20% of total cover: <u>5%</u>																		
<b>Shrub Stratum</b> (Plot size: <u>20'x20'</u> )																		
1. _____																		
2. _____																		
3. _____																		
4. _____																		
5. _____																		
6. _____																		
_____ = Total Cover																		
50% of total cover: _____ 20% of total cover: _____																		
<b>Herb Stratum</b> (Plot size: <u>20'x20'</u> )																		
1. <u>Polystichum acrostichoides</u>	<u>10%</u>	<u>YES</u>	<u>FACU</u>	<b>Definitions of Five Vegetation Strata:</b>  <b>Tree</b> – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).  <b>Sapling</b> – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.  <b>Shrub</b> – Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.  <b>Herb</b> – All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately 3 ft (1 m) in height.  <b>Woody vine</b> – All woody vines, regardless of height.														
2. _____																		
3. _____																		
4. _____																		
5. _____																		
6. _____																		
7. _____																		
8. _____																		
9. _____																		
10. _____																		
11. _____																		
<u>10%</u> = Total Cover																		
50% of total cover: <u>5%</u> 20% of total cover: <u>2%</u>																		
<b>Woody Vine Stratum</b> (Plot size: <u>20'x20'</u> )																		
1. _____																		
2. _____																		
3. _____																		
4. _____																		
5. _____																		
_____ = Total Cover																		
50% of total cover: _____ 20% of total cover: _____																		
Remarks: (Include photo numbers here or on a separate sheet.)																		

## SOIL

Sampling Point: DP-17, UPL

[illegible]

# WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

Project/Site: Cumberland County Property City/County: Cumberland County Sampling Date: 4/25/2018  
Applicant/Owner: CWV, LLC; c/o James H. Martin State: VA Sampling Point: DP-18  
Investigator(s): Hannah L. Miller Section, Township, Range: Tax Map # 45-A-11  
Landform (hillslope, terrace, etc.): Floodplain Local relief (concave, convex, none): \_\_\_\_\_ Slope (%): 2-4%  
Subregion (LRR or MLRA): n/a Lat: 37.550114 Long: -78.113976 Datum: \_\_\_\_\_  
Soil Map Unit Name: \_\_\_\_\_ NWI classification: R3  
Are climatic / hydrologic conditions on the site typical for this time of year? Yes ☒ No \_\_\_\_\_ (If no, explain in Remarks.)  
Are Vegetation \_\_\_\_\_, Soil \_\_\_\_\_, or Hydrology \_\_\_\_\_ significantly disturbed? Are "Normal Circumstances" present? Yes ☒ No \_\_\_\_\_  
Are Vegetation \_\_\_\_\_, Soil \_\_\_\_\_, or Hydrology \_\_\_\_\_ naturally problematic? (If needed, explain any answers in Remarks.)

## SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No _____	Hydic Soil Present? Yes <input checked="" type="checkbox"/> No _____	Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No _____	Is the Sampled Area within a Wetland? Yes <input checked="" type="checkbox"/> No _____
Remarks:  Data point was taken next to flag K-80.			

## HYDROLOGY

<b>Wetland Hydrology Indicators:</b>		<b>Secondary Indicators (minimum of two required)</b>	
<u>Primary Indicators (minimum of one is required; check all that apply)</u>			
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> True Aquatic Plants (B14)	<input type="checkbox"/> Surface Soil Cracks (B6)	
<input checked="" type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	
<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3)	<input checked="" type="checkbox"/> Drainage Patterns (B10)	
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input checked="" type="checkbox"/> Moss Trim Lines (B16)	
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	<input type="checkbox"/> Dry-Season Water Table (C2)	
<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Thin Muck Surface (C7)	<input type="checkbox"/> Crayfish Burrows (C8)	
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)	
<input type="checkbox"/> Iron Deposits (B5)		<input type="checkbox"/> Stunted or Stressed Plants (D1)	
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)		<input checked="" type="checkbox"/> Geomorphic Position (D2)	
<input checked="" type="checkbox"/> Water-Stained Leaves (B9)		<input type="checkbox"/> Shallow Aquitard (D3)	
<input type="checkbox"/> Aquatic Fauna (B13)		<input type="checkbox"/> Microtopographic Relief (D4)	
		<input type="checkbox"/> FAC-Neutral Test (D5)	
<b>Field Observations:</b>			
Surface Water Present? Yes _____ No <input checked="" type="checkbox"/> Depth (inches): _____		Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No _____	
Water Table Present? Yes <input checked="" type="checkbox"/> No _____ Depth (inches): <u>4"</u>			
Saturation Present? Yes _____ No <input checked="" type="checkbox"/> Depth (inches): _____ (includes capillary fringe)			
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:			
Remarks:			

**VEGETATION (Five Strata) – Use scientific names of plants.**

 Sampling Point: DP-18

Tree Stratum (Plot size: <u>20'x20'</u> )	Absolute % Cover	Dominant Species?	Indicator Status	
1. <u>Carpinus caroliniana</u>	<u>10%</u>	<u>YES</u>	<u>FACW</u>	<b>Dominance Test worksheet:</b> Number of Dominant Species That Are OBL, FACW, or FAC: <u>6</u> (A)  Total Number of Dominant Species Across All Strata: <u>6</u> (B)  Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100%</u> (A/B)
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
<u>10%</u> = Total Cover				<b>Prevalence Index worksheet:</b> Total % Cover of: _____ Multiply by: OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: _____ (A) _____ (B)  Prevalence Index = B/A = _____
50% of total cover: <u>5%</u> 20% of total cover: <u>2%</u>				
Sapling Stratum (Plot size: <u>20'x20'</u> )				
1. <u>Carpinus caroliniana</u>	<u>25%</u>	<u>YES</u>	<u>FACW</u>	
2. <u>Ilex opaca</u>	<u>15%</u>	<u>YES</u>	<u>FAC</u>	
3. _____	_____	_____	_____	
<u>40%</u> = Total Cover				
50% of total cover: <u>20%</u> 20% of total cover: <u>8%</u>				
Shrub Stratum (Plot size: <u>20'x20'</u> )				<b>Hydrophytic Vegetation Indicators:</b> <input type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation <input checked="" type="checkbox"/> 2 - Dominance Test is >50% <input type="checkbox"/> 3 - Prevalence Index is ≤3.0 <sup>1</sup> <input type="checkbox"/> 4 - Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)  <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
<u>_____</u> = Total Cover				
50% of total cover: _____ 20% of total cover: _____				
Herb Stratum (Plot size: <u>20'x20'</u> )				<b>Definitions of Five Vegetation Strata:</b>  <b>Tree</b> – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).  <b>Sapling</b> – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.  <b>Shrub</b> – Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.  <b>Herb</b> – All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately 3 ft (1 m) in height.  <b>Woody vine</b> – All woody vines, regardless of height.
1. <u>Juncus effusus</u>	<u>25%</u>	<u>YES</u>	<u>FACW</u>	
2. <u>Microstegium vimineum</u>	<u>20%</u>	<u>YES</u>	<u>FAC</u>	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
<u>45%</u> = Total Cover				
50% of total cover: <u>22.5%</u> 20% of total cover: <u>9%</u>				
Woody Vine Stratum (Plot size: <u>20'x20'</u> )				
1. <u>Smilax rotundifolia</u>	<u>5%</u>	<u>YES</u>	<u>FAC</u>	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
<u>5%</u> = Total Cover				
50% of total cover: <u>2.5%</u> 20% of total cover: <u>1%</u>				
Remarks: (Include photo numbers here or on a separate sheet.) Sphagnum moss present at this point.				<b>Hydrophytic Vegetation Present?</b> Yes <u>X</u> No _____



## SOIL

Sampling Point: DP-18

[illegible]

# WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

Project/Site: Cumberland County Property City/County: Cumberland County Sampling Date: 4/25/2018  
 Applicant/Owner: CWV, LLC; c/o James H. Martin State: VA Sampling Point: DP-18, UPL  
 Investigator(s): Hannah L. Miller Section, Township, Range: Tax Map # 45-A-11  
 Landform (hillslope, terrace, etc.): Hillslope/Toe of Slope Local relief (concave, convex, none): \_\_\_\_\_ Slope (%): 3-5%  
 Subregion (LRR or MLRA): n/a Lat: 37.550114 Long: -78.113976 Datum: \_\_\_\_\_  
 Soil Map Unit Name: Chewacla and Monocan Soils NWI classification: UPL  
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes ☒ No \_\_\_\_\_ (If no, explain in Remarks.)  
 Are Vegetation \_\_\_\_\_, Soil \_\_\_\_\_, or Hydrology \_\_\_\_\_ significantly disturbed? Are "Normal Circumstances" present? Yes ☒ No \_\_\_\_\_  
 Are Vegetation \_\_\_\_\_, Soil \_\_\_\_\_, or Hydrology \_\_\_\_\_ naturally problematic? (If needed, explain any answers in Remarks.)

## SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes _____ No <input checked="" type="checkbox"/> Hydric Soil Present? Yes _____ No <input checked="" type="checkbox"/> Wetland Hydrology Present? Yes _____ No <input checked="" type="checkbox"/>	<b>Is the Sampled Area within a Wetland?</b> Yes _____ No <input checked="" type="checkbox"/>
Remarks:  Data point was taken adjacent to flag K-80.	

## HYDROLOGY

<b>Wetland Hydrology Indicators:</b> <u>Primary Indicators (minimum of one is required; check all that apply)</u> <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> True Aquatic Plants (B14) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> Aquatic Fauna (B13)		<u>Secondary Indicators (minimum of two required)</u> <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> Microtopographic Relief (D4) <input type="checkbox"/> FAC-Neutral Test (D5)
<b>Field Observations:</b> Surface Water Present? Yes _____ No <input checked="" type="checkbox"/> Depth (inches): _____ Water Table Present? Yes _____ No <input checked="" type="checkbox"/> Depth (inches): _____ Saturation Present? Yes _____ No <input checked="" type="checkbox"/> Depth (inches): _____ (includes capillary fringe)	<b>Wetland Hydrology Present?</b> Yes _____ No <input checked="" type="checkbox"/>	
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:		
Remarks:		

**VEGETATION (Five Strata) – Use scientific names of plants.**

 Sampling Point: DP-18, UPL

Tree Stratum (Plot size: <u>20'x20'</u> )	Absolute % Cover	Dominant Species?	Indicator Status															
1. <u>Liriodendron tulipifera</u>	<u>20%</u>	YES	FACU	<b>Dominance Test worksheet:</b> Number of Dominant Species That Are OBL, FACW, or FAC: <u>1</u> (A)  Total Number of Dominant Species Across All Strata: <u>6</u> (B)  Percent of Dominant Species That Are OBL, FACW, or FAC: <u>16%</u> (A/B)														
2. <u>Fagus grandifolia</u>	<u>20%</u>	YES	FACU															
3. _____																		
4. _____																		
5. _____																		
6. _____																		
<u>40%</u> = Total Cover				<b>Prevalence Index worksheet:</b> <table style="width: 100%;"> <tr> <td style="width: 50%;">Total % Cover of:</td> <td style="width: 50%;">Multiply by:</td> </tr> <tr> <td>OBL species <u>0</u></td> <td>x 1 = <u>0</u></td> </tr> <tr> <td>FACW species <u>0</u></td> <td>x 2 = <u>0</u></td> </tr> <tr> <td>FAC species <u>15</u></td> <td>x 3 = <u>45</u></td> </tr> <tr> <td>FACU species <u>75</u></td> <td>x 4 = <u>300</u></td> </tr> <tr> <td>UPL species <u>10</u></td> <td>x 5 = <u>50</u></td> </tr> <tr> <td>Column Totals: <u>100</u> (A)</td> <td><u>395</u> (B)</td> </tr> </table> Prevalence Index = B/A = <u>3.95</u>	Total % Cover of:	Multiply by:	OBL species <u>0</u>	x 1 = <u>0</u>	FACW species <u>0</u>	x 2 = <u>0</u>	FAC species <u>15</u>	x 3 = <u>45</u>	FACU species <u>75</u>	x 4 = <u>300</u>	UPL species <u>10</u>	x 5 = <u>50</u>	Column Totals: <u>100</u> (A)	<u>395</u> (B)
Total % Cover of:	Multiply by:																	
OBL species <u>0</u>	x 1 = <u>0</u>																	
FACW species <u>0</u>	x 2 = <u>0</u>																	
FAC species <u>15</u>	x 3 = <u>45</u>																	
FACU species <u>75</u>	x 4 = <u>300</u>																	
UPL species <u>10</u>	x 5 = <u>50</u>																	
Column Totals: <u>100</u> (A)	<u>395</u> (B)																	
50% of total cover: <u>20%</u> 20% of total cover: <u>8%</u>																		
Sapling Stratum (Plot size: <u>20'x20'</u> )																		
1. <u>Fagus grandifolia</u>	<u>15%</u>	YES	FAC															
2. <u>Ilex opaca</u>	<u>15%</u>	YES	FACU															
3. _____																		
4. _____																		
5. _____																		
6. _____																		
<u>30%</u> = Total Cover																		
50% of total cover: <u>15%</u> 20% of total cover: <u>6%</u>																		
Shrub Stratum (Plot size: <u>20'x20'</u> )																		
1. _____																		
2. _____																		
3. _____																		
4. _____																		
5. _____																		
6. _____																		
_____ = Total Cover																		
50% of total cover: _____ 20% of total cover: _____																		
Herb Stratum (Plot size: <u>20'x20'</u> )																		
1. <u>Polystichum acrostichoides</u>	<u>20%</u>	YES	FACU	<b>Definitions of Five Vegetation Strata:</b>  <b>Tree</b> – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).  <b>Sapling</b> – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.  <b>Shrub</b> – Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.  <b>Herb</b> – All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately 3 ft (1 m) in height.  <b>Woody vine</b> – All woody vines, regardless of height.														
2. <u>Podophyllum peltatum</u>	<u>10%</u>	YES	UPL															
3. _____																		
4. _____																		
5. _____																		
6. _____																		
7. _____																		
8. _____																		
9. _____																		
10. _____																		
11. _____																		
<u>30%</u> = Total Cover																		
50% of total cover: <u>15%</u> 20% of total cover: <u>6%</u>																		
Woody Vine Stratum (Plot size: <u>20'x20'</u> )																		
1. _____																		
2. _____																		
3. _____																		
4. _____																		
5. _____																		
_____ = Total Cover																		
50% of total cover: _____ 20% of total cover: _____																		
Remarks: (Include photo numbers here or on a separate sheet.)																		

## SOIL

Sampling Point: DP-18, UPL

[illegible]

# WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

Project/Site: Cumberland County Property City/County: Cumberland County Sampling Date: 4/25/2018  
 Applicant/Owner: CWV, LLC; c/o James H. Martin State: VA Sampling Point: DP-19  
 Investigator(s): Hannah L. Miller Section, Township, Range: Tax Map # 45-A-11  
 Landform (hillslope, terrace, etc.): Floodplain Local relief (concave, convex, none): \_\_\_\_\_ Slope (%): 1-3%  
 Subregion (LRR or MLRA): n/a Lat: 37.547389 Long: -78.115908 Datum: \_\_\_\_\_  
 Soil Map Unit Name: \_\_\_\_\_ NWI classification: R3

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ☒ No \_\_\_\_\_ (If no, explain in Remarks.)  
 Are Vegetation \_\_\_\_\_, Soil \_\_\_\_\_, or Hydrology \_\_\_\_\_ significantly disturbed? Are "Normal Circumstances" present? Yes ☒ No \_\_\_\_\_  
 Are Vegetation \_\_\_\_\_, Soil \_\_\_\_\_, or Hydrology \_\_\_\_\_ naturally problematic? (If needed, explain any answers in Remarks.)

## SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No _____ Hydric Soil Present? Yes <input checked="" type="checkbox"/> No _____ Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No _____	Is the Sampled Area within a Wetland? Yes <input checked="" type="checkbox"/> No _____
Remarks:  Data point was taken next to flag K-147.	

## HYDROLOGY

<b>Wetland Hydrology Indicators:</b> <u>Primary Indicators (minimum of one is required; check all that apply)</u> <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> True Aquatic Plants (B14) <input checked="" type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input checked="" type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> Aquatic Fauna (B13)		<u>Secondary Indicators (minimum of two required)</u> <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <input checked="" type="checkbox"/> Drainage Patterns (B10) <input checked="" type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input checked="" type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> Microtopographic Relief (D4) <input type="checkbox"/> FAC-Neutral Test (D5)
<b>Field Observations:</b> Surface Water Present? Yes _____ No <input checked="" type="checkbox"/> Depth (inches): _____ Water Table Present? Yes <input checked="" type="checkbox"/> No _____ Depth (inches): <u>5"</u> Saturation Present? Yes _____ No <input checked="" type="checkbox"/> Depth (inches): _____ (includes capillary fringe)	Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No _____	
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:		
Remarks:		

**VEGETATION (Five Strata) – Use scientific names of plants.**

 Sampling Point: DP-19

Tree Stratum (Plot size: <u>20'x20'</u> )	Absolute % Cover	Dominant Species?	Indicator Status	
1. <u>Plantanus occidentalis</u>	<u>25%</u>	<u>YES</u>	<u>FACW</u>	<b>Dominance Test worksheet:</b> Number of Dominant Species That Are OBL, FACW, or FAC: <u>6</u> (A)  Total Number of Dominant Species Across All Strata: <u>6</u> (B)  Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100%</u> (A/B)
2. _____				
3. _____				
4. _____				
5. _____				
6. _____				
<u>25%</u> = Total Cover				<b>Prevalence Index worksheet:</b> Total % Cover of: _____ Multiply by: OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: _____ (A) _____ (B)  Prevalence Index = B/A = _____
50% of total cover: <u>12.5%</u> 20% of total cover: <u>5%</u>				
Sapling Stratum (Plot size: <u>20'x20'</u> )				
1. <u>Carpinus caroliniana</u>	<u>20%</u>	<u>YES</u>	<u>FAC</u>	
2. <u>Acer rubrum</u>	<u>15%</u>	<u>YES</u>	<u>FAC</u>	
3. _____				
4. _____				
5. _____				
6. _____				
<u>35%</u> = Total Cover				<b>Hydrophytic Vegetation Indicators:</b> <input type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation <input checked="" type="checkbox"/> 2 - Dominance Test is >50% <input type="checkbox"/> 3 - Prevalence Index is ≤3.0 <sup>1</sup> <input type="checkbox"/> 4 - Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)  <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
50% of total cover: <u>17.5%</u> 20% of total cover: <u>7%</u>				
Shrub Stratum (Plot size: <u>20'x20'</u> )				
1. _____				
2. _____				
3. _____				
4. _____				
5. _____				
6. _____				
_____ = Total Cover				<b>Definitions of Five Vegetation Strata:</b>  <b>Tree</b> – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).  <b>Sapling</b> – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.  <b>Shrub</b> – Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.  <b>Herb</b> – All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately 3 ft (1 m) in height.  <b>Woody vine</b> – All woody vines, regardless of height.
50% of total cover: _____ 20% of total cover: _____				
Herb Stratum (Plot size: <u>20'x20'</u> )				
1. <u>Juncus effusus</u>	<u>15%</u>	<u>YES</u>	<u>FACW</u>	
2. _____				
3. _____				
4. _____				
5. _____				
6. _____				
7. _____				
8. _____				
9. _____				
10. _____				
11. _____				
<u>15%</u> = Total Cover				
50% of total cover: <u>7.5%</u> 20% of total cover: <u>3%</u>				
Woody Vine Stratum (Plot size: <u>20'x20'</u> )				
1. <u>Vitis riparia</u>	<u>15%</u>	<u>YES</u>	<u>FACW</u>	<b>Hydrophytic Vegetation Present?</b> Yes <u>X</u> No _____
2. <u>Smilax rotundifolia</u>	<u>10%</u>	<u>YES</u>	<u>FAC</u>	
3. _____				
4. _____				
5. _____				
6. _____				
<u>25%</u> = Total Cover				
50% of total cover: <u>12.5%</u> 20% of total cover: <u>5%</u>				
Remarks: (Include photo numbers here or on a separate sheet.)				

## SOIL

Sampling Point: DP-19

[illegible]

# WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

Project/Site: Cumberland County Property City/County: Cumberland County Sampling Date: 4/25/2018  
 Applicant/Owner: CWV, LLC; c/o James H. Martin State: VA Sampling Point: DP-19, UPL  
 Investigator(s): Hannah L. Miller Section, Township, Range: Tax Map # 45-A-11  
 Landform (hillslope, terrace, etc.): Hillslope/Toe of Slope Local relief (concave, convex, none): \_\_\_\_\_ Slope (%): 3-5%  
 Subregion (LRR or MLRA): n/a Lat: 37.547389 Long: -78.115908 Datum: \_\_\_\_\_  
 Soil Map Unit Name: Chewacla and Monocan Soils NWI classification: UPL  
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes ☒ No \_\_\_\_\_ (If no, explain in Remarks.)  
 Are Vegetation \_\_\_\_\_, Soil \_\_\_\_\_, or Hydrology \_\_\_\_\_ significantly disturbed? Are "Normal Circumstances" present? Yes ☒ No \_\_\_\_\_  
 Are Vegetation \_\_\_\_\_, Soil \_\_\_\_\_, or Hydrology \_\_\_\_\_ naturally problematic? (If needed, explain any answers in Remarks.)

## SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes _____ No <input checked="" type="checkbox"/> Hydric Soil Present? Yes _____ No <input checked="" type="checkbox"/> Wetland Hydrology Present? Yes _____ No <input checked="" type="checkbox"/>	<b>Is the Sampled Area within a Wetland?</b> Yes _____ No <input checked="" type="checkbox"/>
Remarks:  Data point was taken adjacent to flag K-147.	

## HYDROLOGY

<b>Wetland Hydrology Indicators:</b> <u>Primary Indicators (minimum of one is required; check all that apply)</u> <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> True Aquatic Plants (B14) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> Aquatic Fauna (B13)		<u>Secondary Indicators (minimum of two required)</u> <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> Microtopographic Relief (D4) <input type="checkbox"/> FAC-Neutral Test (D5)
<b>Field Observations:</b> Surface Water Present? Yes _____ No <input checked="" type="checkbox"/> Depth (inches): _____ Water Table Present? Yes _____ No <input checked="" type="checkbox"/> Depth (inches): _____ Saturation Present? Yes _____ No <input checked="" type="checkbox"/> Depth (inches): _____ (includes capillary fringe)	<b>Wetland Hydrology Present?</b> Yes _____ No <input checked="" type="checkbox"/>	
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:		
Remarks:		



**VEGETATION (Five Strata) – Use scientific names of plants.**

 Sampling Point: DP-19, UPL

<p><b>Tree Stratum</b> (Plot size: <u>20'x20'</u> )</p> <table style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 40%;"></th> <th style="width: 15%; text-align: center;">Absolute % Cover</th> <th style="width: 15%; text-align: center;">Dominant Species?</th> <th style="width: 30%; text-align: center;">Indicator Status</th> </tr> </thead> <tbody> <tr><td>1. <u>Liriodendron tulipifera</u></td><td style="text-align: center;"><u>30%</u></td><td style="text-align: center;"><u>YES</u></td><td style="text-align: center;"><u>FACU</u></td></tr> <tr><td>2. <u>Fagus grandifolia</u></td><td style="text-align: center;"><u>35%</u></td><td style="text-align: center;"><u>YES</u></td><td style="text-align: center;"><u>FACU</u></td></tr> <tr><td>3. _____</td><td></td><td></td><td></td></tr> <tr><td>4. _____</td><td></td><td></td><td></td></tr> <tr><td>5. _____</td><td></td><td></td><td></td></tr> <tr><td>6. _____</td><td></td><td></td><td></td></tr> <tr><td colspan="4" style="text-align: right;"><u>65%</u> = Total Cover</td></tr> <tr><td colspan="4">50% of total cover: <u>32.5%</u> 20% of total cover: <u>13%</u></td></tr> </tbody> </table> <p><b>Sapling Stratum</b> (Plot size: <u>20'x20'</u> )</p> <table style="width: 100%; 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Indicator Status	1. <u>Liriodendron tulipifera</u>	<u>30%</u>	<u>YES</u>	<u>FACU</u>	2. <u>Fagus grandifolia</u>	<u>35%</u>	<u>YES</u>	<u>FACU</u>	3. _____				4. _____				5. _____				6. _____				<u>65%</u> = Total Cover				50% of total cover: <u>32.5%</u> 20% of total cover: <u>13%</u>					Absolute % Cover	Dominant Species?	Indicator Status	1. <u>Ilex opaca</u>	<u>15%</u>	<u>YES</u>	<u>FAC</u>	2. <u>Acer rubrum</u>	<u>10%</u>	<u>YES</u>	<u>FAC</u>	3. _____				4. _____				5. _____				6. _____				<u>25%</u> = Total Cover				50% of total cover: <u>12.5%</u> 20% of total cover: <u>5%</u>					Absolute % Cover	Dominant Species?	Indicator Status	1. _____				2. _____				3. _____				4. _____				5. _____				6. _____				_____ = Total Cover				50% of total cover: _____ 20% of total cover: _____					Absolute % Cover	Dominant Species?	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(7.6 cm) or larger in diameter at breast height (DBH).</p> <p><b>Sapling</b> – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.</p> <p><b>Shrub</b> – Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.</p> <p><b>Herb</b> – All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately 3 ft (1 m) in height.</p> <p><b>Woody vine</b> – All woody vines, regardless of height.</p> <p><b>Hydrophytic Vegetation Present?</b> Yes _____ No <u>X</u></p>		Total % Cover of:	Multiply by:		OBL species	<u>0</u>	x 1 =	<u>0</u>	FACW species	<u>0</u>	x 2 =	<u>0</u>	FAC species	<u>25</u>	x 3 =	<u>75</u>	FACU species	<u>75</u>	x 4 =	<u>300</u>	UPL species	<u>0</u>	x 5 =	<u>0</u>	Column Totals:	<u>100</u> (A)		<u>375</u> (B)
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Remarks: (Include photo numbers here or on a separate sheet.)

## SOIL

Sampling Point: DP-19, UPL

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)								
Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>		
0-4	10YR 5/3	100					Sandy Loam	
4-10	10YR 5/6	100					Sandy Loam	
10-18	10YR 6/4	100					Sandy Loam	

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.

<sup>2</sup>Location: PL=Pore Lining, M=Matrix.

<b>Hydric Soil Indicators:</b>		<b>Indicators for Problematic Hydric Soils<sup>3</sup>:</b>	
<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Dark Surface (S7)	<input type="checkbox"/> 2 cm Muck (A10) ( <b>MLRA 147</b> )	
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Polyvalue Below Surface (S8) ( <b>MLRA 147, 148</b> )	<input type="checkbox"/> Coast Prairie Redox (A16)	
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Thin Dark Surface (S9) ( <b>MLRA 147, 148</b> )	<b>(MLRA 147, 148)</b>	
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Piedmont Floodplain Soils (F19)	
<input type="checkbox"/> Stratified Layers (A5)	<input type="checkbox"/> Depleted Matrix (F3)	<b>(MLRA 136, 147)</b>	
<input type="checkbox"/> 2 cm Muck (A10) ( <b>LRR N</b> )	<input type="checkbox"/> Redox Dark Surface (F6)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)	
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Dark Surface (F7)	<input type="checkbox"/> Other (Explain in Remarks)	
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Redox Depressions (F8)		
<input type="checkbox"/> Sandy Mucky Mineral (S1) ( <b>LRR N,</b>	<input type="checkbox"/> Iron-Manganese Masses (F12) ( <b>LRR N,</b>		
<b>MLRA 147, 148)</b>	<b>MLRA 136)</b>		
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Umbric Surface (F13) ( <b>MLRA 136, 122)</b>		
<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) ( <b>MLRA 148)</b>		
<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Red Parent Material (F21) ( <b>MLRA 127, 147)</b>		

**Restrictive Layer (if observed):**

Type: \_\_\_\_\_

Depth (inches): \_\_\_\_\_

Hydric Soil Present?    Yes \_\_\_\_\_    No X\_\_\_\_\_

Remarks:

# WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

Project/Site: Cumberland County Property City/County: Cumberland County Sampling Date: 4/25/2018  
 Applicant/Owner: CWV, LLC; c/o James H. Martin State: VA Sampling Point: DP-20  
 Investigator(s): Shannon D. Hill Section, Township, Range: Tax Map # 45-A-1  
 Landform (hillslope, terrace, etc.): Floodplain Local relief (concave, convex, none): \_\_\_\_\_ Slope (%): 1-3%  
 Subregion (LRR or MLRA): n/a Lat: 37.569718227 Long: -78.114311751 Datum: \_\_\_\_\_  
 Soil Map Unit Name: Cecil sandy loam/Helena sandy loam NWI classification: PFO

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ☒ No \_\_\_\_\_ (If no, explain in Remarks.)  
 Are Vegetation \_\_\_\_\_, Soil \_\_\_\_\_, or Hydrology \_\_\_\_\_ significantly disturbed? Are "Normal Circumstances" present? Yes ☒ No \_\_\_\_\_  
 Are Vegetation \_\_\_\_\_, Soil \_\_\_\_\_, or Hydrology \_\_\_\_\_ naturally problematic? (If needed, explain any answers in Remarks.)

## SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No _____ Hydric Soil Present? Yes <input checked="" type="checkbox"/> No _____ Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No _____	Is the Sampled Area within a Wetland? Yes <input checked="" type="checkbox"/> No _____
Remarks:  Data point was taken next to flag G-13.	

## HYDROLOGY

<b>Wetland Hydrology Indicators:</b> <u>Primary Indicators (minimum of one is required; check all that apply)</u> <input checked="" type="checkbox"/> Surface Water (A1) _____ True Aquatic Plants (B14) <input checked="" type="checkbox"/> High Water Table (A2) _____ Hydrogen Sulfide Odor (C1) _____ Saturation (A3) _____ Oxidized Rhizospheres on Living Roots (C3) _____ Water Marks (B1) _____ Presence of Reduced Iron (C4) _____ Sediment Deposits (B2) _____ Recent Iron Reduction in Tilled Soils (C6) _____ Drift Deposits (B3) _____ Thin Muck Surface (C7) _____ Algal Mat or Crust (B4) _____ Other (Explain in Remarks) _____ Iron Deposits (B5) _____ Inundation Visible on Aerial Imagery (B7) <input checked="" type="checkbox"/> Water-Stained Leaves (B9) _____ Aquatic Fauna (B13)		<u>Secondary Indicators (minimum of two required)</u> _____ Surface Soil Cracks (B6) _____ Sparsely Vegetated Concave Surface (B8) <input checked="" type="checkbox"/> Drainage Patterns (B10) <input checked="" type="checkbox"/> Moss Trim Lines (B16) _____ Dry-Season Water Table (C2) _____ Crayfish Burrows (C8) _____ Saturation Visible on Aerial Imagery (C9) _____ Stunted or Stressed Plants (D1) <input checked="" type="checkbox"/> Geomorphic Position (D2) _____ Shallow Aquitard (D3) _____ Microtopographic Relief (D4) _____ FAC-Neutral Test (D5)
<b>Field Observations:</b> Surface Water Present? Yes <input checked="" type="checkbox"/> No _____ Depth (inches): <u>0"</u> Water Table Present? Yes <input checked="" type="checkbox"/> No _____ Depth (inches): <u>6"</u> Saturation Present? Yes _____ No <input checked="" type="checkbox"/> Depth (inches): _____ (includes capillary fringe)	Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No _____	
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:		
Remarks:		

**VEGETATION (Five Strata) – Use scientific names of plants.**

 Sampling Point: DP-20

Tree Stratum (Plot size: <u>20'x20'</u> )	Absolute % Cover	Dominant Species?	Indicator Status	
1. <u>Alnus serrulata</u>	65%	YES	FACW	<b>Dominance Test worksheet:</b> Number of Dominant Species That Are OBL, FACW, or FAC: <u>3</u> (A)  Total Number of Dominant Species Across All Strata: <u>4</u> (B)  Percent of Dominant Species That Are OBL, FACW, or FAC: <u>75%</u> (A/B)
2. <u>Plantanus occidentalis</u>	18%	YES	FACW	
3. _____				
4. _____				
5. _____				
6. _____				
83% = Total Cover				<b>Prevalence Index worksheet:</b> Total % Cover of: _____ Multiply by: OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: _____ (A) _____ (B)  Prevalence Index = B/A = _____
50% of total cover: <u>41.5%</u> 20% of total cover: <u>16.6%</u>				
Sapling Stratum (Plot size: <u>20'x20'</u> )				
1. _____				
2. _____				
3. _____				
4. _____				<b>Hydrophytic Vegetation Indicators:</b> <input type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation <input checked="" type="checkbox"/> 2 - Dominance Test is >50% <input type="checkbox"/> 3 - Prevalence Index is ≤3.0 <sup>1</sup> <input type="checkbox"/> 4 - Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)  <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
5. _____				
6. _____				
_____ = Total Cover				
50% of total cover: _____ 20% of total cover: _____				
Shrub Stratum (Plot size: <u>20'x20'</u> )				
1. _____				<b>Definitions of Five Vegetation Strata:</b>  <b>Tree</b> – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).  <b>Sapling</b> – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.  <b>Shrub</b> – Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.  <b>Herb</b> – All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately 3 ft (1 m) in height.  <b>Woody vine</b> – All woody vines, regardless of height.
2. _____				
3. _____				
4. _____				
5. _____				
6. _____				
_____ = Total Cover				<b>Hydrophytic Vegetation Present?</b> Yes <input checked="" type="checkbox"/> No _____
50% of total cover: _____ 20% of total cover: _____				
Herb Stratum (Plot size: <u>20'x20'</u> )				
1. <u>Juncus effusus</u>	10%	YES	FACW	
2. <u>Lonicera japonica</u>	7%	YES	FACU	
3. _____				
4. _____				
5. _____				50% of total cover: <u>8.5%</u> 20% of total cover: <u>3.4%</u>
6. _____				
7. _____				
8. _____				
9. _____				
10. _____				
11. _____				<b>Woody Vine Stratum</b> (Plot size: <u>20'x20'</u> )
17% = Total Cover				
50% of total cover: <u>8.5%</u> 20% of total cover: <u>3.4%</u>				
1. _____				
2. _____				
3. _____				
4. _____				50% of total cover: _____ 20% of total cover: _____
5. _____				
_____ = Total Cover				
50% of total cover: _____ 20% of total cover: _____				
Remarks: (Include photo numbers here or on a separate sheet.)				

## SOIL

Sampling Point: DP-20

[illegible]

## WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

Project/Site: Cumberland County Property City/County: Cumberland County Sampling Date: 4/25/2018  
Applicant/Owner: CWV, LLC; c/o James H. Martin State: VA Sampling Point: DP-20, UPL  
Investigator(s): Shannon D. Hill Section, Township, Range: Tax Map #45-A-1  
Landform (hillslope, terrace, etc.): Hillslope/Toe of slope Local relief (concave, convex, none): \_\_\_\_\_ Slope (%): 4-6%  
Subregion (LRR or MLRA): n/a Lat: 37.569718227 Long: -78.114311751 Datum: \_\_\_\_\_  
Soil Map Unit Name: Cecil sandy loam/Helena sandy loam NWI classification: UPL  
Are climatic / hydrologic conditions on the site typical for this time of year? Yes ☒ No \_\_\_\_\_ (If no, explain in Remarks.)  
Are Vegetation \_\_\_\_\_, Soil \_\_\_\_\_, or Hydrology \_\_\_\_\_ significantly disturbed? Are "Normal Circumstances" present? Yes ☒ No \_\_\_\_\_  
Are Vegetation \_\_\_\_\_, Soil \_\_\_\_\_, or Hydrology \_\_\_\_\_ naturally problematic? (If needed, explain any answers in Remarks.)

### SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes _____ No <input checked="" type="checkbox"/>	Is the Sampled Area within a Wetland? Yes _____ No <input checked="" type="checkbox"/>
Hydric Soil Present? Yes _____ No <input checked="" type="checkbox"/>	
Wetland Hydrology Present? Yes _____ No <input checked="" type="checkbox"/>	
Remarks:  Data point was taken adjacent to flag G-13.	

### HYDROLOGY

<b>Wetland Hydrology Indicators:</b>		<b>Secondary Indicators (minimum of two required)</b>
<u>Primary Indicators (minimum of one is required; check all that apply)</u>		
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> True Aquatic Plants (B14)	<input type="checkbox"/> Surface Soil Cracks (B6)
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)
<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3)	<input type="checkbox"/> Drainage Patterns (B10)
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Moss Trim Lines (B16)
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	<input type="checkbox"/> Dry-Season Water Table (C2)
<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Thin Muck Surface (C7)	<input type="checkbox"/> Crayfish Burrows (C8)
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)
<input type="checkbox"/> Iron Deposits (B5)		<input type="checkbox"/> Stunted or Stressed Plants (D1)
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)		<input type="checkbox"/> Geomorphic Position (D2)
<input type="checkbox"/> Water-Stained Leaves (B9)		<input type="checkbox"/> Shallow Aquitard (D3)
<input type="checkbox"/> Aquatic Fauna (B13)		<input type="checkbox"/> Microtopographic Relief (D4)
		<input type="checkbox"/> FAC-Neutral Test (D5)
<b>Field Observations:</b>		
Surface Water Present? Yes _____ No <input checked="" type="checkbox"/> Depth (inches): _____		
Water Table Present? Yes _____ No <input checked="" type="checkbox"/> Depth (inches): _____		
Saturation Present? Yes _____ No <input checked="" type="checkbox"/> Depth (inches): _____ (includes capillary fringe)		
		<b>Wetland Hydrology Present? Yes _____ No <input checked="" type="checkbox"/></b>
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:		
Remarks:		

**VEGETATION (Five Strata) – Use scientific names of plants.**

 Sampling Point: DP-20, UPL

Tree Stratum (Plot size: <u>20'x20'</u> )	Absolute % Cover	Dominant Species?	Indicator Status															
1. <u>Liriodendron tulipifera</u>	<u>25%</u>	<u>YES</u>	<u>FACU</u>	<b>Dominance Test worksheet:</b> Number of Dominant Species That Are OBL, FACW, or FAC: <u>2</u> (A)  Total Number of Dominant Species Across All Strata: <u>5</u> (B)  Percent of Dominant Species That Are OBL, FACW, or FAC: <u>40%</u> (A/B)														
2. <u>Fagus grandifolia</u>	<u>30%</u>	<u>YES</u>	<u>FACU</u>															
3. _____																		
4. _____																		
5. _____																		
6. _____																		
<u>55%</u> = Total Cover				<b>Prevalence Index worksheet:</b> <table style="width: 100%;"> <tr> <td style="width: 50%;">Total % Cover of:</td> <td style="width: 50%;">Multiply by:</td> </tr> <tr> <td>OBL species <u>0</u></td> <td>x 1 = <u>0</u></td> </tr> <tr> <td>FACW species <u>0</u></td> <td>x 2 = <u>0</u></td> </tr> <tr> <td>FAC species <u>25</u></td> <td>x 3 = <u>75</u></td> </tr> <tr> <td>FACU species <u>75</u></td> <td>x 4 = <u>300</u></td> </tr> <tr> <td>UPL species <u>0</u></td> <td>x 5 = <u>0</u></td> </tr> <tr> <td>Column Totals: <u>100</u> (A)</td> <td><u>375</u> (B)</td> </tr> </table> Prevalence Index = B/A = <u>3.75</u>	Total % Cover of:	Multiply by:	OBL species <u>0</u>	x 1 = <u>0</u>	FACW species <u>0</u>	x 2 = <u>0</u>	FAC species <u>25</u>	x 3 = <u>75</u>	FACU species <u>75</u>	x 4 = <u>300</u>	UPL species <u>0</u>	x 5 = <u>0</u>	Column Totals: <u>100</u> (A)	<u>375</u> (B)
Total % Cover of:	Multiply by:																	
OBL species <u>0</u>	x 1 = <u>0</u>																	
FACW species <u>0</u>	x 2 = <u>0</u>																	
FAC species <u>25</u>	x 3 = <u>75</u>																	
FACU species <u>75</u>	x 4 = <u>300</u>																	
UPL species <u>0</u>	x 5 = <u>0</u>																	
Column Totals: <u>100</u> (A)	<u>375</u> (B)																	
50% of total cover: <u>27.5%</u> 20% of total cover: <u>11%</u>																		
Sapling Stratum (Plot size: <u>20'x20'</u> )																		
1. <u>Ilex opaca</u>	<u>15%</u>	<u>YES</u>	<u>FAC</u>															
2. _____																		
3. _____																		
4. _____																		
5. _____																		
6. _____																		
<u>15%</u> = Total Cover																		
50% of total cover: <u>7.5%</u> 20% of total cover: <u>3%</u>																		
Shrub Stratum (Plot size: <u>20'x20'</u> )																		
1. _____																		
2. _____																		
3. _____																		
4. _____																		
5. _____																		
6. _____																		
<u>        </u> = Total Cover																		
50% of total cover: <u>        </u> 20% of total cover: <u>        </u>																		
Herb Stratum (Plot size: <u>20'x20'</u> )																		
1. <u>Polystichum acrostichoides</u>	<u>20%</u>	<u>YES</u>	<u>FACU</u>	<b>Hydrophytic Vegetation Indicators:</b> <input type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation <input type="checkbox"/> 2 - Dominance Test is >50% <input type="checkbox"/> 3 - Prevalence Index is ≤3.0 <sup>1</sup> <input type="checkbox"/> 4 - Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)  <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.														
2. _____																		
3. _____																		
4. _____																		
5. _____																		
6. _____																		
7. _____																		
8. _____																		
9. _____																		
10. _____																		
11. _____																		
<u>20%</u> = Total Cover																		
50% of total cover: <u>10%</u> 20% of total cover: <u>4%</u>																		
Woody Vine Stratum (Plot size: <u>20'x20'</u> )																		
1. <u>Smilax rotundifolia</u>	<u>10%</u>	<u>YES</u>	<u>FAC</u>	<b>Definitions of Five Vegetation Strata:</b>  <b>Tree</b> – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).  <b>Sapling</b> – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.  <b>Shrub</b> – Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.  <b>Herb</b> – All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately 3 ft (1 m) in height.  <b>Woody vine</b> – All woody vines, regardless of height.														
2. _____																		
3. _____																		
4. _____																		
5. _____																		
6. _____																		
<u>10%</u> = Total Cover																		
50% of total cover: <u>5%</u> 20% of total cover: <u>2%</u>																		
Remarks: (Include photo numbers here or on a separate sheet.)				<b>Hydrophytic Vegetation Present?</b> Yes <u>        </u> No <u>X</u>														

## SOIL

Sampling Point: DP-20, UPL

[illegible]



# WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

Project/Site: Cumberland County Property City/County: Cumberland County Sampling Date: 4/27/2018  
 Applicant/Owner: CWV, LLC; c/o James H. Martin State: VA Sampling Point: DP-21  
 Investigator(s): Shannon D. Hill Section, Township, Range: Tax Map # 45-A-1  
 Landform (hillslope, terrace, etc.): Floodplain Local relief (concave, convex, none): \_\_\_\_\_ Slope (%): 1-3%  
 Subregion (LRR or MLRA): n/a Lat: 37.573475342 Long: -78.119056408 Datum: \_\_\_\_\_  
 Soil Map Unit Name: Enon-Helena complex/Poindexter-Wedowee complex NWI classification: PFO  
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes ☒ No \_\_\_\_\_ (If no, explain in Remarks.)  
 Are Vegetation \_\_\_\_\_, Soil \_\_\_\_\_, or Hydrology \_\_\_\_\_ significantly disturbed? Are "Normal Circumstances" present? Yes ☒ No \_\_\_\_\_  
 Are Vegetation \_\_\_\_\_, Soil \_\_\_\_\_, or Hydrology \_\_\_\_\_ naturally problematic? (If needed, explain any answers in Remarks.)

## SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No _____	Is the Sampled Area within a Wetland? Yes <input checked="" type="checkbox"/> No _____
Hydric Soil Present? Yes <input checked="" type="checkbox"/> No _____	
Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No _____	
Remarks:  Data point was taken next to flag G-76.	

## HYDROLOGY

<b>Wetland Hydrology Indicators:</b> <u>Primary Indicators (minimum of one is required; check all that apply)</u> <input checked="" type="checkbox"/> Surface Water (A1) _____ True Aquatic Plants (B14) <input checked="" type="checkbox"/> High Water Table (A2) _____ Hydrogen Sulfide Odor (C1) <input checked="" type="checkbox"/> Saturation (A3) _____ Oxidized Rhizospheres on Living Roots (C3) _____ Water Marks (B1) _____ Presence of Reduced Iron (C4) _____ Sediment Deposits (B2) _____ Recent Iron Reduction in Tilled Soils (C6) _____ Drift Deposits (B3) _____ Thin Muck Surface (C7) _____ Algal Mat or Crust (B4) _____ Other (Explain in Remarks) _____ Iron Deposits (B5) _____ Inundation Visible on Aerial Imagery (B7) <input checked="" type="checkbox"/> Water-Stained Leaves (B9) _____ Aquatic Fauna (B13)		<u>Secondary Indicators (minimum of two required)</u> _____ Surface Soil Cracks (B6) _____ Sparsely Vegetated Concave Surface (B8) <input checked="" type="checkbox"/> Drainage Patterns (B10) <input checked="" type="checkbox"/> Moss Trim Lines (B16) _____ Dry-Season Water Table (C2) <input checked="" type="checkbox"/> Crayfish Burrows (C8) _____ Saturation Visible on Aerial Imagery (C9) _____ Stunted or Stressed Plants (D1) <input checked="" type="checkbox"/> Geomorphic Position (D2) _____ Shallow Aquitard (D3) _____ Microtopographic Relief (D4) _____ FAC-Neutral Test (D5)
<b>Field Observations:</b> Surface Water Present? Yes <input checked="" type="checkbox"/> No _____ Depth (inches): <u>0"</u> Water Table Present? Yes <input checked="" type="checkbox"/> No _____ Depth (inches): <u>4"</u> Saturation Present? Yes <input checked="" type="checkbox"/> No _____ Depth (inches): <u>6"</u> (includes capillary fringe)	<b>Wetland Hydrology Present?</b> Yes <input checked="" type="checkbox"/> No _____	
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:		
Remarks:		

**VEGETATION (Five Strata) – Use scientific names of plants.**

 Sampling Point: DP-21

Tree Stratum (Plot size: <u>20'x20'</u> )	Absolute % Cover	Dominant Species?	Indicator Status	
1. <u>Betula nigra</u>	<u>25%</u>	<u>YES</u>	<u>FACW</u>	<b>Dominance Test worksheet:</b> Number of Dominant Species That Are OBL, FACW, or FAC: <u>5</u> (A)  Total Number of Dominant Species Across All Strata: <u>5</u> (B)  Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100%</u> (A/B)
2. _____				
3. _____				
4. _____				
5. _____				
6. _____				
<u>25%</u> = Total Cover				<b>Prevalence Index worksheet:</b> Total % Cover of: _____ Multiply by: OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: _____ (A) _____ (B)  Prevalence Index = B/A = _____
50% of total cover: <u>12.5%</u> 20% of total cover: <u>5%</u>				
Sapling Stratum (Plot size: <u>20'x20'</u> )				
1. <u>Betula nigra</u>	<u>25%</u>	<u>YES</u>	<u>FACW</u>	
2. <u>Acer rubrum</u>	<u>20%</u>	<u>YES</u>	<u>FAC</u>	
3. <u>Carpinus caroliniana</u>	<u>15%</u>	<u>YES</u>	<u>FAC</u>	
4. _____				<b>Hydrophytic Vegetation Indicators:</b> <input type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation <input checked="" type="checkbox"/> 2 - Dominance Test is >50% <input type="checkbox"/> 3 - Prevalence Index is ≤3.0 <sup>1</sup> <input type="checkbox"/> 4 - Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)  <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
5. _____				
6. _____				
<u>60%</u> = Total Cover				
50% of total cover: <u>30%</u> 20% of total cover: <u>12%</u>				
Shrub Stratum (Plot size: <u>20'x20'</u> )				
1. _____				<b>Definitions of Five Vegetation Strata:</b>  <b>Tree</b> – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).  <b>Sapling</b> – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.  <b>Shrub</b> – Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.  <b>Herb</b> – All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately 3 ft (1 m) in height.  <b>Woody vine</b> – All woody vines, regardless of height.
2. _____				
3. _____				
4. _____				
5. _____				
6. _____				
_____ = Total Cover				<b>Hydrophytic Vegetation Present?</b> Yes <u>X</u> No _____
50% of total cover: _____ 20% of total cover: _____				
Herb Stratum (Plot size: <u>20'x20'</u> )				
1. <u>Juncus effusus</u>	<u>15%</u>	<u>YES</u>	<u>FACW</u>	
2. _____				
3. _____				
4. _____				
5. _____				
6. _____				
7. _____				
8. _____				
9. _____				
10. _____				
11. _____				
<u>15%</u> = Total Cover				
50% of total cover: <u>7.5%</u> 20% of total cover: <u>3%</u>				
Woody Vine Stratum (Plot size: <u>20'x20'</u> )				
1. _____				
2. _____				
3. _____				
4. _____				
5. _____				
_____ = Total Cover				
50% of total cover: _____ 20% of total cover: _____				
Remarks: (Include photo numbers here or on a separate sheet.)				

## SOIL

Sampling Point: DP-21

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)								
Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>		
0-4	10YR 3/3	100					Sandy Loam	
4-18	10YR 7/1	90	10YR 6/8	10	C	PL	Sandy Loam	

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.

<sup>2</sup>Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:		Indicators for Problematic Hydric Soils <sup>3</sup> :	
<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Dark Surface (S7)	<input type="checkbox"/> 2 cm Muck (A10) ( <b>MLRA 147</b> )	
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Polyvalue Below Surface (S8) ( <b>MLRA 147, 148</b> )	<input type="checkbox"/> Coast Prairie Redox (A16)	
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Thin Dark Surface (S9) ( <b>MLRA 147, 148</b> )	<b>(MLRA 147, 148)</b>	
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Piedmont Floodplain Soils (F19)	
<input type="checkbox"/> Stratified Layers (A5)	<input checked="" type="checkbox"/> Depleted Matrix (F3)	<b>(MLRA 136, 147)</b>	
<input type="checkbox"/> 2 cm Muck (A10) ( <b>LRR N</b> )	<input type="checkbox"/> Redox Dark Surface (F6)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)	
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Dark Surface (F7)	<input type="checkbox"/> Other (Explain in Remarks)	
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Redox Depressions (F8)		
<input type="checkbox"/> Sandy Mucky Mineral (S1) ( <b>LRR N,</b>	<input type="checkbox"/> Iron-Manganese Masses (F12) ( <b>LRR N,</b>		
<b>MLRA 147, 148)</b>	<b>MLRA 136)</b>		
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Umbric Surface (F13) ( <b>MLRA 136, 122)</b>		
<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) ( <b>MLRA 148)</b>		
<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Red Parent Material (F21) ( <b>MLRA 127, 147)</b>		

Restrictive Layer (if observed):  
Type: \_\_\_\_\_  
Depth (inches): \_\_\_\_\_

Hydric Soil Present? Yes ☒ No \_\_\_\_\_

Remarks:

# WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

Project/Site: Cumberland County Property City/County: Cumberland County Sampling Date: 4/27/2018  
 Applicant/Owner: CWV, LLC; c/o James H. Martin State: VA Sampling Point: DP-21, UPL  
 Investigator(s): Shannon D. Hill Section, Township, Range: Tax Map #45-A-1  
 Landform (hillslope, terrace, etc.): Hillslope Local relief (concave, convex, none): \_\_\_\_\_ Slope (%): 3-5%  
 Subregion (LRR or MLRA): n/a Lat: 37.573475342 Long: -78.119056408 Datum: \_\_\_\_\_  
 Soil Map Unit Name: Enon-Helena complex/Poindexter Wedowee complex NWI classification: UPL  
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes ☒ No \_\_\_\_\_ (If no, explain in Remarks.)  
 Are Vegetation \_\_\_\_\_, Soil \_\_\_\_\_, or Hydrology \_\_\_\_\_ significantly disturbed? Are "Normal Circumstances" present? Yes ☒ No \_\_\_\_\_  
 Are Vegetation \_\_\_\_\_, Soil \_\_\_\_\_, or Hydrology \_\_\_\_\_ naturally problematic? (If needed, explain any answers in Remarks.)

## SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes _____ No <input checked="" type="checkbox"/> Hydric Soil Present? Yes _____ No <input checked="" type="checkbox"/> Wetland Hydrology Present? Yes _____ No <input checked="" type="checkbox"/>	<b>Is the Sampled Area within a Wetland?</b> Yes _____ No <input checked="" type="checkbox"/>
Remarks:  Data point was taken adjacent to flag G-76.	

## HYDROLOGY

<b>Wetland Hydrology Indicators:</b> <u>Primary Indicators (minimum of one is required; check all that apply)</u> <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> True Aquatic Plants (B14) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> Aquatic Fauna (B13)		<u>Secondary Indicators (minimum of two required)</u> <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> Microtopographic Relief (D4) <input type="checkbox"/> FAC-Neutral Test (D5)
<b>Field Observations:</b> Surface Water Present? Yes _____ No <input checked="" type="checkbox"/> Depth (inches): _____ Water Table Present? Yes _____ No <input checked="" type="checkbox"/> Depth (inches): _____ Saturation Present? Yes _____ No <input checked="" type="checkbox"/> Depth (inches): _____ (includes capillary fringe)	<b>Wetland Hydrology Present?</b> Yes _____ No <input checked="" type="checkbox"/>	
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:		
Remarks:		

**VEGETATION (Five Strata) – Use scientific names of plants.**

 Sampling Point: DP-21, UPL

Tree Stratum (Plot size: <u>20'x20'</u> )	Absolute % Cover	Dominant Species?	Indicator Status															
1. <u>Liriodendron tulipifera</u>	<u>25%</u>	YES	FACU	<b>Dominance Test worksheet:</b> Number of Dominant Species That Are OBL, FACW, or FAC: <u>2</u> (A)  Total Number of Dominant Species Across All Strata: <u>5</u> (B)  Percent of Dominant Species That Are OBL, FACW, or FAC: <u>40%</u> (A/B)														
2. <u>Liquidambar styraciflua</u>	<u>25%</u>	YES	FAC															
3. _____																		
4. _____																		
5. _____																		
6. _____																		
<u>50%</u> = Total Cover				<b>Prevalence Index worksheet:</b> <table style="width: 100%;"> <tr> <th style="width: 50%;">Total % Cover of:</th> <th style="width: 50%;">Multiply by:</th> </tr> <tr> <td>OBL species <u>0</u></td> <td>x 1 = <u>0</u></td> </tr> <tr> <td>FACW species <u>0</u></td> <td>x 2 = <u>0</u></td> </tr> <tr> <td>FAC species <u>40</u></td> <td>x 3 = <u>120</u></td> </tr> <tr> <td>FACU species <u>60</u></td> <td>x 4 = <u>240</u></td> </tr> <tr> <td>UPL species <u>0</u></td> <td>x 5 = <u>0</u></td> </tr> <tr> <td>Column Totals: <u>100</u> (A)</td> <td><u>360</u> (B)</td> </tr> </table> Prevalence Index = B/A = <u>3.60</u>	Total % Cover of:	Multiply by:	OBL species <u>0</u>	x 1 = <u>0</u>	FACW species <u>0</u>	x 2 = <u>0</u>	FAC species <u>40</u>	x 3 = <u>120</u>	FACU species <u>60</u>	x 4 = <u>240</u>	UPL species <u>0</u>	x 5 = <u>0</u>	Column Totals: <u>100</u> (A)	<u>360</u> (B)
Total % Cover of:	Multiply by:																	
OBL species <u>0</u>	x 1 = <u>0</u>																	
FACW species <u>0</u>	x 2 = <u>0</u>																	
FAC species <u>40</u>	x 3 = <u>120</u>																	
FACU species <u>60</u>	x 4 = <u>240</u>																	
UPL species <u>0</u>	x 5 = <u>0</u>																	
Column Totals: <u>100</u> (A)	<u>360</u> (B)																	
50% of total cover: <u>25%</u> 20% of total cover: <u>10%</u>																		
<b>Sapling Stratum</b> (Plot size: <u>20'x20'</u> )																		
1. <u>Juniperus virginiana</u>	<u>20%</u>	YES	FACU															
2. <u>Carpinus caroliniana</u>	<u>15%</u>	YES	FAC															
3. _____																		
4. _____																		
5. _____																		
6. _____																		
<u>35%</u> = Total Cover																		
50% of total cover: <u>17.5%</u> 20% of total cover: <u>7%</u>																		
<b>Shrub Stratum</b> (Plot size: <u>20'x20'</u> )																		
1. _____																		
2. _____																		
3. _____																		
4. _____																		
5. _____																		
6. _____																		
_____ = Total Cover																		
50% of total cover: _____    20% of total cover: _____																		
<b>Herb Stratum</b> (Plot size: <u>20'x20'</u> )																		
1. <u>Polystichum acrostichoides</u>	<u>15%</u>	YES	FACU															
2. _____																		
3. _____																		
4. _____																		
5. _____																		
6. _____																		
7. _____																		
8. _____																		
9. _____																		
10. _____																		
11. _____																		
<u>15%</u> = Total Cover																		
50% of total cover: <u>7.5%</u> 20% of total cover: <u>3%</u>																		
<b>Woody Vine Stratum</b> (Plot size: <u>20'x20'</u> )																		
1. _____																		
2. _____																		
3. _____																		
4. _____																		
5. _____																		
_____ = Total Cover																		
50% of total cover: _____    20% of total cover: _____																		
Remarks: (Include photo numbers here or on a separate sheet.)																		

**Definitions of Five Vegetation Strata:**  
  
**Tree** – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).  
  
**Sapling** – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.  
  
**Shrub** – Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.  
  
**Herb** – All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately 3 ft (1 m) in height.  
  
**Woody vine** – All woody vines, regardless of height.

**Hydrophytic Vegetation Present?**    Yes \_\_\_\_\_ No X

## SOIL

Sampling Point: DP-21, UPL

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)								
Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>		
0-4	10YR 5/3	100					Sandy Loam	
4-12	10YR 5/4	100					Sandy Loam	
12-18	10YR 5/4	100					Sandy Clay Loam	

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.

<sup>2</sup>Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:						Indicators for Problematic Hydric Soils <sup>3</sup> :		
<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Dark Surface (S7)	<input type="checkbox"/> 2 cm Muck (A10) ( <b>MLRA 147</b> )						
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Polyvalue Below Surface (S8) ( <b>MLRA 147, 148</b> )	<input type="checkbox"/> Coast Prairie Redox (A16)						
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Thin Dark Surface (S9) ( <b>MLRA 147, 148</b> )	<input type="checkbox"/> ( <b>MLRA 147, 148</b> )						
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Piedmont Floodplain Soils (F19)						
<input type="checkbox"/> Stratified Layers (A5)	<input type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> ( <b>MLRA 136, 147</b> )						
<input type="checkbox"/> 2 cm Muck (A10) ( <b>LRR N</b> )	<input type="checkbox"/> Redox Dark Surface (F6)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)						
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Dark Surface (F7)	<input type="checkbox"/> Other (Explain in Remarks)						
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Redox Depressions (F8)							
<input type="checkbox"/> Sandy Mucky Mineral (S1) ( <b>LRR N,</b>	<input type="checkbox"/> Iron-Manganese Masses (F12) ( <b>LRR N,</b>							
<b>MLRA 147, 148</b> )	<b>MLRA 136</b> )							
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Umbric Surface (F13) ( <b>MLRA 136, 122</b> )							
<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) ( <b>MLRA 148</b> )							
<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Red Parent Material (F21) ( <b>MLRA 127, 147</b> )							

Restrictive Layer (if observed):

Type: \_\_\_\_\_

Depth (inches): \_\_\_\_\_

Hydric Soil Present?

Yes \_\_\_\_\_ No ☒

Remarks:

# WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

Project/Site: Cumberland County Property City/County: Cumberland County Sampling Date: 4/27/2018  
Applicant/Owner: CWV, LLC; c/o James H. Martin State: VA Sampling Point: DP-22  
Investigator(s): Shannon D. Hill Section, Township, Range: Tax Map # 38-A-7  
Landform (hillslope, terrace, etc.): Floodplain Local relief (concave, convex, none): \_\_\_\_\_ Slope (%): 0-2%  
Subregion (LRR or MLRA): n/a Lat: 37.572422026 Long: -78.113771911 Datum: \_\_\_\_\_  
Soil Map Unit Name: Cecil sandy clay loam/Poindexter Wedowee complex NWI classification: PFO  
Are climatic / hydrologic conditions on the site typical for this time of year? Yes ☒ No \_\_\_\_\_ (If no, explain in Remarks.)  
Are Vegetation \_\_\_\_\_, Soil \_\_\_\_\_, or Hydrology \_\_\_\_\_ significantly disturbed? Are "Normal Circumstances" present? Yes ☒ No \_\_\_\_\_  
Are Vegetation \_\_\_\_\_, Soil \_\_\_\_\_, or Hydrology \_\_\_\_\_ naturally problematic? (If needed, explain any answers in Remarks.)

## SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No _____ Hydric Soil Present? Yes <input checked="" type="checkbox"/> No _____ Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No _____	Is the Sampled Area within a Wetland? Yes <input checked="" type="checkbox"/> No _____
Remarks:  Data point was taken next to flag G-224.	

## HYDROLOGY

<b>Wetland Hydrology Indicators:</b>		<b>Secondary Indicators (minimum of two required)</b>
<u>Primary Indicators (minimum of one is required; check all that apply)</u>		
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> True Aquatic Plants (B14)	<input type="checkbox"/> Surface Soil Cracks (B6)
<input checked="" type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)
<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3)	<input checked="" type="checkbox"/> Drainage Patterns (B10)
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input checked="" type="checkbox"/> Moss Trim Lines (B16)
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	<input type="checkbox"/> Dry-Season Water Table (C2)
<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Thin Muck Surface (C7)	<input type="checkbox"/> Crayfish Burrows (C8)
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)
<input type="checkbox"/> Iron Deposits (B5)		<input type="checkbox"/> Stunted or Stressed Plants (D1)
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)		<input checked="" type="checkbox"/> Geomorphic Position (D2)
<input checked="" type="checkbox"/> Water-Stained Leaves (B9)		<input type="checkbox"/> Shallow Aquitard (D3)
<input type="checkbox"/> Aquatic Fauna (B13)		<input type="checkbox"/> Microtopographic Relief (D4)
		<input type="checkbox"/> FAC-Neutral Test (D5)
<b>Field Observations:</b>		
Surface Water Present? Yes _____ No <input checked="" type="checkbox"/> Depth (inches): _____		
Water Table Present? Yes <input checked="" type="checkbox"/> No _____ Depth (inches): <u>6"</u>		
Saturation Present? Yes _____ No <input checked="" type="checkbox"/> Depth (inches): _____ (includes capillary fringe)		
		Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No _____
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:		
Remarks:		

**VEGETATION (Five Strata) – Use scientific names of plants.**

 Sampling Point: DP-22

Tree Stratum (Plot size: <u>20'x20'</u> )	Absolute % Cover	Dominant Species?	Indicator Status	
1. <u>Acer rubrum</u>	<u>20%</u>	<u>YES</u>	<u>FAC</u>	<b>Dominance Test worksheet:</b> Number of Dominant Species That Are OBL, FACW, or FAC: <u>5</u> (A)  Total Number of Dominant Species Across All Strata: <u>7</u> (B)  Percent of Dominant Species That Are OBL, FACW, or FAC: <u>71%</u> (A/B)
2. _____				
3. _____				
4. _____				
5. _____				
6. _____				
<u>20%</u> = Total Cover				<b>Prevalence Index worksheet:</b> Total % Cover of: _____ Multiply by: OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: _____ (A) _____ (B)  Prevalence Index = B/A = _____
50% of total cover: <u>10%</u> 20% of total cover: <u>4%</u>				
Sapling Stratum (Plot size: <u>20'x20'</u> )				
1. <u>Acer rubrum</u>	<u>15%</u>	<u>YES</u>	<u>FAC</u>	
2. <u>Juniperus virginiana</u>	<u>10%</u>	<u>YES</u>	<u>FACU</u>	
3. <u>Carpinus caroliniana</u>	<u>10%</u>	<u>YES</u>	<u>FAC</u>	
<u>35%</u> = Total Cover				
50% of total cover: <u>17.5%</u> 20% of total cover: <u>7%</u>				
Shrub Stratum (Plot size: <u>20'x20'</u> )				<b>Hydrophytic Vegetation Indicators:</b> <input type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation <input checked="" type="checkbox"/> 2 - Dominance Test is >50% <input type="checkbox"/> 3 - Prevalence Index is ≤3.0 <sup>1</sup> <input type="checkbox"/> 4 - Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)  <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
1. _____				
2. _____				
3. _____				
4. _____				
5. _____				
<u>      </u> = Total Cover				
50% of total cover: _____ 20% of total cover: _____				
Herb Stratum (Plot size: <u>20'x20'</u> )				<b>Definitions of Five Vegetation Strata:</b>  <b>Tree</b> – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).  <b>Sapling</b> – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.  <b>Shrub</b> – Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.  <b>Herb</b> – All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately 3 ft (1 m) in height.  <b>Woody vine</b> – All woody vines, regardless of height.
1. <u>Kalmia latifolia</u>	<u>20%</u>	<u>YES</u>	<u>FACU</u>	
2. <u>Juncus effusus</u>	<u>10%</u>	<u>YES</u>	<u>FACW</u>	
3. _____				
4. _____				
5. _____				
6. _____				
7. _____				
8. _____				
9. _____				
10. _____				
11. _____				
<u>30%</u> = Total Cover				
50% of total cover: <u>15%</u> 20% of total cover: <u>6%</u>				
Woody Vine Stratum (Plot size: <u>20'x20'</u> )				<b>Hydrophytic Vegetation Present?</b> Yes <u>X</u> No _____
1. <u>Smilax rotundifolia</u>	<u>15%</u>	<u>YES</u>	<u>FAC</u>	
2. _____				
3. _____				
4. _____				
5. _____				
<u>15%</u> = Total Cover				
50% of total cover: <u>7.5%</u> 20% of total cover: <u>3%</u>				
Remarks: (Include photo numbers here or on a separate sheet.)				



## SOIL

Sampling Point: DP-22

[illegible]

# WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

Project/Site: Cumberland County Property City/County: Cumberland County Sampling Date: 4/27/2018  
Applicant/Owner: CWV, LLC; c/o James H. Martin State: VA Sampling Point: DP-22, UPL  
Investigator(s): Shannon D. Hill Section, Township, Range: Tax Map #38-A-7  
Landform (hillslope, terrace, etc.): Hillslope Local relief (concave, convex, none): \_\_\_\_\_ Slope (%): 4-6%  
Subregion (LRR or MLRA): n/a Lat: 37.572422026 Long: -78.113771911 Datum: \_\_\_\_\_  
Soil Map Unit Name: Cecil sandy loam/Poindexter Wedowee complex NWI classification: UPL  
Are climatic / hydrologic conditions on the site typical for this time of year? Yes ☒ No \_\_\_\_\_ (If no, explain in Remarks.)  
Are Vegetation \_\_\_\_\_, Soil \_\_\_\_\_, or Hydrology \_\_\_\_\_ significantly disturbed? Are "Normal Circumstances" present? Yes ☒ No \_\_\_\_\_  
Are Vegetation \_\_\_\_\_, Soil \_\_\_\_\_, or Hydrology \_\_\_\_\_ naturally problematic? (If needed, explain any answers in Remarks.)

## SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes _____ No <input checked="" type="checkbox"/>	Is the Sampled Area within a Wetland? Yes _____ No <input checked="" type="checkbox"/>
Hydric Soil Present? Yes _____ No <input checked="" type="checkbox"/>	
Wetland Hydrology Present? Yes _____ No <input checked="" type="checkbox"/>	
Remarks:  Data point was taken adjacent to flag G-224.	

## HYDROLOGY

<b>Wetland Hydrology Indicators:</b>		<b>Secondary Indicators (minimum of two required)</b>
<u>Primary Indicators (minimum of one is required; check all that apply)</u>		
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> True Aquatic Plants (B14)	<input type="checkbox"/> Surface Soil Cracks (B6)
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)
<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3)	<input type="checkbox"/> Drainage Patterns (B10)
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Moss Trim Lines (B16)
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	<input type="checkbox"/> Dry-Season Water Table (C2)
<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Thin Muck Surface (C7)	<input type="checkbox"/> Crayfish Burrows (C8)
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)
<input type="checkbox"/> Iron Deposits (B5)		<input type="checkbox"/> Stunted or Stressed Plants (D1)
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)		<input type="checkbox"/> Geomorphic Position (D2)
<input type="checkbox"/> Water-Stained Leaves (B9)		<input type="checkbox"/> Shallow Aquitard (D3)
<input type="checkbox"/> Aquatic Fauna (B13)		<input type="checkbox"/> Microtopographic Relief (D4)
		<input type="checkbox"/> FAC-Neutral Test (D5)
<b>Field Observations:</b>		
Surface Water Present? Yes _____ No <input checked="" type="checkbox"/> Depth (inches): _____		
Water Table Present? Yes _____ No <input checked="" type="checkbox"/> Depth (inches): _____		
Saturation Present? Yes _____ No <input checked="" type="checkbox"/> Depth (inches): _____ (includes capillary fringe)		
		<b>Wetland Hydrology Present? Yes _____ No <input checked="" type="checkbox"/></b>
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:		
Remarks:		

**VEGETATION (Five Strata) – Use scientific names of plants.**

 Sampling Point: DP-22, UPL

Tree Stratum (Plot size: <u>20'x20'</u> )	Absolute % Cover	Dominant Species?	Indicator Status															
1. <u>Liriodendron tulipifera</u>	<u>25%</u>	YES	FACU	<b>Dominance Test worksheet:</b> Number of Dominant Species That Are OBL, FACW, or FAC: <u>0</u> (A)  Total Number of Dominant Species Across All Strata: <u>5</u> (B)  Percent of Dominant Species That Are OBL, FACW, or FAC: <u>0%</u> (A/B)														
2. <u>Pinus taeda</u>	<u>20%</u>	YES	FACU															
3. <u>Quercus alba</u>	<u>15%</u>	YES	FACU															
4. _____																		
5. _____																		
6. _____																		
<u>60%</u> = Total Cover				<b>Prevalence Index worksheet:</b> <table style="width: 100%;"> <tr> <th style="text-align: left;">Total % Cover of:</th> <th style="text-align: left;">Multiply by:</th> </tr> <tr> <td>OBL species <u>0</u></td> <td>x 1 = <u>0</u></td> </tr> <tr> <td>FACW species <u>0</u></td> <td>x 2 = <u>0</u></td> </tr> <tr> <td>FAC species <u>0</u></td> <td>x 3 = <u>90</u></td> </tr> <tr> <td>FACU species <u>100</u></td> <td>x 4 = <u>400</u></td> </tr> <tr> <td>UPL species <u>0</u></td> <td>x 5 = <u>0</u></td> </tr> <tr> <td>Column Totals: <u>100</u></td> <td>(A) <u>400</u> (B)</td> </tr> </table> Prevalence Index = B/A = <u>4.00</u>	Total % Cover of:	Multiply by:	OBL species <u>0</u>	x 1 = <u>0</u>	FACW species <u>0</u>	x 2 = <u>0</u>	FAC species <u>0</u>	x 3 = <u>90</u>	FACU species <u>100</u>	x 4 = <u>400</u>	UPL species <u>0</u>	x 5 = <u>0</u>	Column Totals: <u>100</u>	(A) <u>400</u> (B)
Total % Cover of:	Multiply by:																	
OBL species <u>0</u>	x 1 = <u>0</u>																	
FACW species <u>0</u>	x 2 = <u>0</u>																	
FAC species <u>0</u>	x 3 = <u>90</u>																	
FACU species <u>100</u>	x 4 = <u>400</u>																	
UPL species <u>0</u>	x 5 = <u>0</u>																	
Column Totals: <u>100</u>	(A) <u>400</u> (B)																	
50% of total cover: <u>30%</u> 20% of total cover: <u>12%</u>																		
Sapling Stratum (Plot size: <u>20'x20'</u> )																		
1. <u>Quercus alba</u>	<u>20%</u>	YES	FACU															
2. <u>Juniperus virginiana</u>	<u>20%</u>	YES	FACU															
3. _____																		
4. _____																		
5. _____																		
6. _____																		
<u>40%</u> = Total Cover																		
50% of total cover: <u>20%</u> 20% of total cover: <u>8%</u>																		
Shrub Stratum (Plot size: <u>20'x20'</u> )																		
1. _____																		
2. _____																		
3. _____																		
4. _____																		
5. _____																		
6. _____																		
_____ = Total Cover																		
50% of total cover: _____ 20% of total cover: _____																		
Herb Stratum (Plot size: <u>20'x20'</u> )																		
1. _____																		
2. _____																		
3. _____																		
4. _____																		
5. _____																		
6. _____																		
7. _____																		
8. _____																		
9. _____																		
10. _____																		
11. _____																		
_____ = Total Cover																		
50% of total cover: _____ 20% of total cover: _____																		
Woody Vine Stratum (Plot size: <u>20'x20'</u> )																		
1. <u>Smilax rotundifolia</u>																		
2. _____																		
3. _____																		
4. _____																		
5. _____																		
_____ = Total Cover																		
50% of total cover: _____ 20% of total cover: _____																		
Remarks: (Include photo numbers here or on a separate sheet.)																		

**Definitions of Five Vegetation Strata:**  
  
**Tree** – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).  
  
**Sapling** – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.  
  
**Shrub** – Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.  
  
**Herb** – All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately 3 ft (1 m) in height.  
  
**Woody vine** – All woody vines, regardless of height.  
  
  
**Hydrophytic Vegetation Present?** Yes \_\_\_\_\_ No X

## SOIL

Sampling Point: DP-22, UPL

[illegible]

# WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

Project/Site: Cumberland County Property City/County: Cumberland County Sampling Date: 4/30/2018  
 Applicant/Owner: CWV, LLC; c/o James H. Martin State: VA Sampling Point: DP-23  
 Investigator(s): Shannon D. Hill Section, Township, Range: Tax Map # 38-A-7  
 Landform (hillslope, terrace, etc.): Floodplain Local relief (concave, convex, none): \_\_\_\_\_ Slope (%): 0-2%  
 Subregion (LRR or MLRA): n/a Lat: 37.574172302 Long: -78.116817341 Datum: \_\_\_\_\_  
 Soil Map Unit Name: Poindexter Wedowee Complex NWI classification: R3  
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes ☒ No \_\_\_\_\_ (If no, explain in Remarks.)  
 Are Vegetation \_\_\_\_\_, Soil \_\_\_\_\_, or Hydrology \_\_\_\_\_ significantly disturbed? Are "Normal Circumstances" present? Yes ☒ No \_\_\_\_\_  
 Are Vegetation \_\_\_\_\_, Soil \_\_\_\_\_, or Hydrology \_\_\_\_\_ naturally problematic? (If needed, explain any answers in Remarks.)

## SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No _____ Hydric Soil Present? Yes <input checked="" type="checkbox"/> No _____ Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No _____	Is the Sampled Area within a Wetland? Yes <input checked="" type="checkbox"/> No _____
Remarks:  Data point was taken next to flag G-311.	

## HYDROLOGY

<b>Wetland Hydrology Indicators:</b> <u>Primary Indicators (minimum of one is required; check all that apply)</u> <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> True Aquatic Plants (B14) <input checked="" type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input checked="" type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> Aquatic Fauna (B13)		<u>Secondary Indicators (minimum of two required)</u> <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <input checked="" type="checkbox"/> Drainage Patterns (B10) <input checked="" type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input checked="" type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> Microtopographic Relief (D4) <input type="checkbox"/> FAC-Neutral Test (D5)
<b>Field Observations:</b> Surface Water Present? Yes _____ No <input checked="" type="checkbox"/> Depth (inches): _____ Water Table Present? Yes <input checked="" type="checkbox"/> No _____ Depth (inches): <u>4"</u> Saturation Present? Yes _____ No <input checked="" type="checkbox"/> Depth (inches): _____ (includes capillary fringe)	Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No _____	
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:		
Remarks:		

**VEGETATION (Five Strata) – Use scientific names of plants.**

 Sampling Point: DP-23

Tree Stratum (Plot size: <u>20'x20'</u> )	Absolute % Cover	Dominant Species?	Indicator Status	
1. <u>Carpinus caroliniana</u>	15%	YES	FAC	<b>Dominance Test worksheet:</b> Number of Dominant Species That Are OBL, FACW, or FAC: <u>6</u> (A)  Total Number of Dominant Species Across All Strata: <u>6</u> (B)  Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100%</u> (A/B)
2. <u>Acer rubrum</u>	15%	YES	FAC	
3. <u>Liquidambar styraciflua</u>	15%	YES	FAC	
4. _____				
5. _____				
6. _____				
45% = Total Cover				<b>Prevalence Index worksheet:</b> Total % Cover of: _____ Multiply by: OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: _____ (A) _____ (B)  Prevalence Index = B/A = _____
50% of total cover: <u>22.5%</u> 20% of total cover: <u>9%</u>				
Sapling Stratum (Plot size: <u>20'x20'</u> )				
1. <u>Acer rubrum</u>	15%	YES	FACW	
2. _____				
3. _____				
15% = Total Cover				
50% of total cover: <u>7.5%</u> 20% of total cover: <u>3%</u>				
Shrub Stratum (Plot size: <u>20'x20'</u> )				<b>Hydrophytic Vegetation Indicators:</b> <input type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation <input checked="" type="checkbox"/> 2 - Dominance Test is >50% <input type="checkbox"/> 3 - Prevalence Index is ≤3.0 <sup>1</sup> <input type="checkbox"/> 4 - Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)  <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
1. <u>Vaccinium corymbosum</u>	20%	YES	FACW	
2. _____				
3. _____				
4. _____				
5. _____				
20% = Total Cover				
50% of total cover: <u>10%</u> 20% of total cover: <u>4%</u>				
Herb Stratum (Plot size: <u>20'x20'</u> )				<b>Definitions of Five Vegetation Strata:</b>  <b>Tree</b> – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).  <b>Sapling</b> – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.  <b>Shrub</b> – Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.  <b>Herb</b> – All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately 3 ft (1 m) in height.  <b>Woody vine</b> – All woody vines, regardless of height.
1. <u>Athyrium angustum</u>	20%	YES	FAC	
2. _____				
3. _____				
4. _____				
5. _____				
6. _____				
7. _____				
8. _____				
9. _____				
10. _____				
11. _____				
20% = Total Cover				
50% of total cover: <u>10%</u> 20% of total cover: <u>4%</u>				
Woody Vine Stratum (Plot size: <u>20'x20'</u> )				
1. _____				
2. _____				
3. _____				
4. _____				
5. _____				
_____ = Total Cover				
50% of total cover: _____ 20% of total cover: _____				
Remarks: (Include photo numbers here or on a separate sheet.)				

## SOIL

Sampling Point: DP-23

[illegible]

# WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

Project/Site: Cumberland County Property City/County: Cumberland County Sampling Date: 4/30/2018  
Applicant/Owner: CWV, LLC; c/o James H. Martin State: VA Sampling Point: DP-23, UPL  
Investigator(s): Shannon D. Hill Section, Township, Range: Tax Map #38-A-7  
Landform (hillslope, terrace, etc.): Hillslope Local relief (concave, convex, none): \_\_\_\_\_ Slope (%): 2-4%  
Subregion (LRR or MLRA): n/a Lat: 37.574172302 Long: -78.116817341 Datum: \_\_\_\_\_  
Soil Map Unit Name: Poindexter Wedowee complex NWI classification: UPL  
Are climatic / hydrologic conditions on the site typical for this time of year? Yes ☒ No \_\_\_\_\_ (If no, explain in Remarks.)  
Are Vegetation \_\_\_\_\_, Soil \_\_\_\_\_, or Hydrology \_\_\_\_\_ significantly disturbed? Are "Normal Circumstances" present? Yes ☒ No \_\_\_\_\_  
Are Vegetation \_\_\_\_\_, Soil \_\_\_\_\_, or Hydrology \_\_\_\_\_ naturally problematic? (If needed, explain any answers in Remarks.)

## SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes _____ No <input checked="" type="checkbox"/>	Is the Sampled Area within a Wetland? Yes _____ No <input checked="" type="checkbox"/>
Hydric Soil Present? Yes _____ No <input checked="" type="checkbox"/>	
Wetland Hydrology Present? Yes _____ No <input checked="" type="checkbox"/>	
Remarks:  Data point was taken adjacent to flag G-311.	

## HYDROLOGY

<b>Wetland Hydrology Indicators:</b>		<b>Secondary Indicators (minimum of two required)</b>
<u>Primary Indicators (minimum of one is required; check all that apply)</u>		
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> True Aquatic Plants (B14)	<input type="checkbox"/> Surface Soil Cracks (B6)
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)
<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3)	<input type="checkbox"/> Drainage Patterns (B10)
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Moss Trim Lines (B16)
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	<input type="checkbox"/> Dry-Season Water Table (C2)
<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Thin Muck Surface (C7)	<input type="checkbox"/> Crayfish Burrows (C8)
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)
<input type="checkbox"/> Iron Deposits (B5)		<input type="checkbox"/> Stunted or Stressed Plants (D1)
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)		<input type="checkbox"/> Geomorphic Position (D2)
<input type="checkbox"/> Water-Stained Leaves (B9)		<input type="checkbox"/> Shallow Aquitard (D3)
<input type="checkbox"/> Aquatic Fauna (B13)		<input type="checkbox"/> Microtopographic Relief (D4)
		<input type="checkbox"/> FAC-Neutral Test (D5)
<b>Field Observations:</b>		
Surface Water Present? Yes _____ No <input checked="" type="checkbox"/> Depth (inches): _____		
Water Table Present? Yes _____ No <input checked="" type="checkbox"/> Depth (inches): _____		
Saturation Present? Yes _____ No <input checked="" type="checkbox"/> Depth (inches): _____ (includes capillary fringe)		
		<b>Wetland Hydrology Present? Yes _____ No <input checked="" type="checkbox"/></b>
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:		
Remarks:		



**VEGETATION (Five Strata) – Use scientific names of plants.**

 Sampling Point: DP-23, UPL

Tree Stratum (Plot size: <u>20'x20'</u> )	Absolute % Cover	Dominant Species?	Indicator Status															
1. <u>Quercus alba</u>	<u>25%</u>	<u>YES</u>	<u>FACU</u>	<b>Dominance Test worksheet:</b> Number of Dominant Species That Are OBL, FACW, or FAC: <u>0</u> (A)  Total Number of Dominant Species Across All Strata: <u>5</u> (B)  Percent of Dominant Species That Are OBL, FACW, or FAC: <u>0%</u> (A/B)														
2. <u>Liriodendron tulipifera</u>	<u>25%</u>	<u>YES</u>	<u>FACU</u>															
3. <u>Quercus velutina</u>	<u>20%</u>	<u>YES</u>	<u>FACU</u>															
4. _____																		
5. _____																		
6. _____																		
<u>70%</u> = Total Cover				<b>Prevalence Index worksheet:</b> <table style="width: 100%;"> <tr> <th style="width: 50%;">Total % Cover of:</th> <th style="width: 50%;">Multiply by:</th> </tr> <tr> <td>OBL species <u>0</u></td> <td>x 1 = <u>0</u></td> </tr> <tr> <td>FACW species <u>0</u></td> <td>x 2 = <u>0</u></td> </tr> <tr> <td>FAC species <u>0</u></td> <td>x 3 = <u>0</u></td> </tr> <tr> <td>FACU species <u>100</u></td> <td>x 4 = <u>400</u></td> </tr> <tr> <td>UPL species <u>0</u></td> <td>x 5 = <u>0</u></td> </tr> <tr> <td>Column Totals: <u>100</u> (A)</td> <td><u>400</u> (B)</td> </tr> </table> Prevalence Index = B/A = <u>4.00</u>	Total % Cover of:	Multiply by:	OBL species <u>0</u>	x 1 = <u>0</u>	FACW species <u>0</u>	x 2 = <u>0</u>	FAC species <u>0</u>	x 3 = <u>0</u>	FACU species <u>100</u>	x 4 = <u>400</u>	UPL species <u>0</u>	x 5 = <u>0</u>	Column Totals: <u>100</u> (A)	<u>400</u> (B)
Total % Cover of:	Multiply by:																	
OBL species <u>0</u>	x 1 = <u>0</u>																	
FACW species <u>0</u>	x 2 = <u>0</u>																	
FAC species <u>0</u>	x 3 = <u>0</u>																	
FACU species <u>100</u>	x 4 = <u>400</u>																	
UPL species <u>0</u>	x 5 = <u>0</u>																	
Column Totals: <u>100</u> (A)	<u>400</u> (B)																	
50% of total cover: <u>30%</u> 20% of total cover: <u>12%</u>																		
Sapling Stratum (Plot size: <u>20'x20'</u> )																		
1. <u>Juniperus virginiana</u>	<u>20%</u>	<u>YES</u>	<u>FACU</u>															
2. <u>Quercus alba</u>	<u>10%</u>	<u>YES</u>	<u>FACU</u>															
3. _____																		
4. _____																		
5. _____																		
6. _____																		
<u>30%</u> = Total Cover																		
50% of total cover: <u>15%</u> 20% of total cover: <u>6%</u>																		
Shrub Stratum (Plot size: <u>20'x20'</u> )																		
1. _____																		
2. _____																		
3. _____																		
4. _____																		
5. _____																		
6. _____																		
_____ = Total Cover																		
50% of total cover: _____ 20% of total cover: _____																		
Herb Stratum (Plot size: <u>20'x20'</u> )																		
1. _____																		
2. _____																		
3. _____																		
4. _____																		
5. _____																		
6. _____																		
7. _____																		
8. _____																		
9. _____																		
10. _____																		
11. _____																		
_____ = Total Cover																		
50% of total cover: _____ 20% of total cover: _____																		
Woody Vine Stratum (Plot size: <u>20'x20'</u> )																		
1. _____																		
2. _____																		
3. _____																		
4. _____																		
5. _____																		
_____ = Total Cover																		
50% of total cover: _____ 20% of total cover: _____																		
Remarks: (Include photo numbers here or on a separate sheet.)																		

**Definitions of Five Vegetation Strata:**  
  
**Tree** – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).  
  
**Sapling** – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.  
  
**Shrub** – Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.  
  
**Herb** – All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately 3 ft (1 m) in height.  
  
**Woody vine** – All woody vines, regardless of height.

**Hydrophytic Vegetation Present?** Yes \_\_\_\_\_ No X

## SOIL

Sampling Point: DP-23, UPL

[illegible]

# WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

Project/Site: Cumberland County Property City/County: Cumberland County Sampling Date: 4/30/2018  
Applicant/Owner: CWV, LLC; c/o James H. Martin State: VA Sampling Point: DP-24  
Investigator(s): Shannon D. Hill Section, Township, Range: Tax Map # 45-A-1  
Landform (hillslope, terrace, etc.): Floodplain Local relief (concave, convex, none): \_\_\_\_\_ Slope (%): 1-3%  
Subregion (LRR or MLRA): n/a Lat: 37.574200597 Long: -78.119125193 Datum: \_\_\_\_\_  
Soil Map Unit Name: Chewacla and Monocan soils/Poindexter Wedowee complex NWI classification: R3  
Are climatic / hydrologic conditions on the site typical for this time of year? Yes ☒ No \_\_\_\_\_ (If no, explain in Remarks.)  
Are Vegetation \_\_\_\_\_, Soil \_\_\_\_\_, or Hydrology \_\_\_\_\_ significantly disturbed? Are "Normal Circumstances" present? Yes ☒ No \_\_\_\_\_  
Are Vegetation \_\_\_\_\_, Soil \_\_\_\_\_, or Hydrology \_\_\_\_\_ naturally problematic? (If needed, explain any answers in Remarks.)

## SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No _____ Hydric Soil Present? Yes <input checked="" type="checkbox"/> No _____ Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No _____	Is the Sampled Area within a Wetland? Yes <input checked="" type="checkbox"/> No _____
Remarks:  Data point was taken next to flag G-327.	

## HYDROLOGY

<b>Wetland Hydrology Indicators:</b> <u>Primary Indicators (minimum of one is required; check all that apply)</u> <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> True Aquatic Plants (B14) <input checked="" type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input checked="" type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> Aquatic Fauna (B13)		<u>Secondary Indicators (minimum of two required)</u> <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <input checked="" type="checkbox"/> Drainage Patterns (B10) <input checked="" type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input checked="" type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> Microtopographic Relief (D4) <input type="checkbox"/> FAC-Neutral Test (D5)
<b>Field Observations:</b> Surface Water Present? Yes _____ No <input checked="" type="checkbox"/> Depth (inches): _____ Water Table Present? Yes <input checked="" type="checkbox"/> No _____ Depth (inches): <u>4"</u> Saturation Present? Yes _____ No <input checked="" type="checkbox"/> Depth (inches): _____ (includes capillary fringe)	Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No _____	
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:		
Remarks:		

**VEGETATION (Five Strata) – Use scientific names of plants.**

 Sampling Point: DP-24

Tree Stratum (Plot size: <u>20'x20'</u> )	Absolute % Cover	Dominant Species?	Indicator Status	
1. <u>Platanus occidentalis</u>	<u>50%</u>	<u>YES</u>	<u>FACW</u>	<b>Dominance Test worksheet:</b> Number of Dominant Species That Are OBL, FACW, or FAC: <u>6</u> (A)  Total Number of Dominant Species Across All Strata: <u>7</u> (B)  Percent of Dominant Species That Are OBL, FACW, or FAC: <u>85%</u> (A/B)
2. <u>Liquidambar styraciflua</u>	<u>10%</u>	<u>NO</u>	<u>FAC</u>	
3. _____				
4. _____				
5. _____				
6. _____				
<u>60%</u> = Total Cover				<b>Prevalence Index worksheet:</b> Total % Cover of: _____ Multiply by: OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: _____ (A) _____ (B)  Prevalence Index = B/A = _____
50% of total cover: <u>30%</u> 20% of total cover: <u>12%</u>				
<b>Sapling Stratum</b> (Plot size: <u>20'x20'</u> )				
1. <u>Carpinus caroliniana</u>	<u>10%</u>	<u>YES</u>	<u>FACW</u>	
2. <u>Acer rubrum</u>	<u>5%</u>	<u>YES</u>	<u>FAC</u>	
3. _____				
4. _____				
5. _____				
6. _____				
<u>15%</u> = Total Cover				<b>Hydrophytic Vegetation Indicators:</b> <input type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation <input checked="" type="checkbox"/> 2 - Dominance Test is >50% <input type="checkbox"/> 3 - Prevalence Index is ≤3.0 <sup>1</sup> <input type="checkbox"/> 4 - Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)  <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
50% of total cover: <u>7.5%</u> 20% of total cover: <u>3%</u>				
<b>Shrub Stratum</b> (Plot size: <u>20'x20'</u> )				
1. _____				
2. _____				
3. _____				
4. _____				
5. _____				
6. _____				
_____ = Total Cover				<b>Definitions of Five Vegetation Strata:</b>  <b>Tree</b> – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).  <b>Sapling</b> – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.  <b>Shrub</b> – Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.  <b>Herb</b> – All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately 3 ft (1 m) in height.  <b>Woody vine</b> – All woody vines, regardless of height.
50% of total cover: _____ 20% of total cover: _____				
<b>Herb Stratum</b> (Plot size: <u>20'x20'</u> )				
1. <u>Vaccinium corymbosum</u>	<u>10%</u>	<u>YES</u>	<u>FACW</u>	
2. <u>Woodwardia areolata</u>	<u>10%</u>	<u>YES</u>	<u>FACW</u>	
3. <u>Athyrium angustum</u>	<u>5%</u>	<u>YES</u>	<u>FAC</u>	
4. _____				
5. _____				
6. _____				
7. _____				
8. _____				
9. _____				
10. _____				
11. _____				
<u>25%</u> = Total Cover				
50% of total cover: <u>12.5%</u> 20% of total cover: <u>5%</u>				
<b>Woody Vine Stratum</b> (Plot size: <u>20'x20'</u> )				
1. _____				
2. _____				
3. _____				
4. _____				
5. _____				
_____ = Total Cover				
50% of total cover: _____ 20% of total cover: _____				
50% of total cover: _____ 20% of total cover: _____				
Remarks: (Include photo numbers here or on a separate sheet.)				

## SOIL

Sampling Point: DP-24

[illegible]

## WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

Project/Site: Cumberland County Property City/County: Cumberland County Sampling Date: 4/30/2018  
Applicant/Owner: CWV, LLC; c/o James H. Martin State: VA Sampling Point: DP-24, UPL  
Investigator(s): Shannon D. Hill Section, Township, Range: Tax Map #45-A-1  
Landform (hillslope, terrace, etc.): Hillslope Local relief (concave, convex, none): \_\_\_\_\_ Slope (%): 4-6%  
Subregion (LRR or MLRA): n/a Lat: 37.574200597 Long: -78.119125193 Datum: \_\_\_\_\_  
Soil Map Unit Name: Chewacla and Monocan soils/Poindexter Wedowee complex NWI classification: UPL  
Are climatic / hydrologic conditions on the site typical for this time of year? Yes ☒ No \_\_\_\_\_ (If no, explain in Remarks.)  
Are Vegetation \_\_\_\_\_, Soil \_\_\_\_\_, or Hydrology \_\_\_\_\_ significantly disturbed? Are "Normal Circumstances" present? Yes ☒ No \_\_\_\_\_  
Are Vegetation \_\_\_\_\_, Soil \_\_\_\_\_, or Hydrology \_\_\_\_\_ naturally problematic? (If needed, explain any answers in Remarks.)

### SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes _____ No <input checked="" type="checkbox"/>	Is the Sampled Area within a Wetland? Yes _____ No <input checked="" type="checkbox"/>
Hydric Soil Present? Yes _____ No <input checked="" type="checkbox"/>	
Wetland Hydrology Present? Yes _____ No <input checked="" type="checkbox"/>	
Remarks:  Data point was taken adjacent to flag G-327.	

### HYDROLOGY

<b>Wetland Hydrology Indicators:</b>		<b>Secondary Indicators (minimum of two required)</b>
<u>Primary Indicators (minimum of one is required; check all that apply)</u>		
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> True Aquatic Plants (B14)	<input type="checkbox"/> Surface Soil Cracks (B6)
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)
<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3)	<input type="checkbox"/> Drainage Patterns (B10)
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Moss Trim Lines (B16)
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	<input type="checkbox"/> Dry-Season Water Table (C2)
<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Thin Muck Surface (C7)	<input type="checkbox"/> Crayfish Burrows (C8)
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)
<input type="checkbox"/> Iron Deposits (B5)		<input type="checkbox"/> Stunted or Stressed Plants (D1)
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)		<input type="checkbox"/> Geomorphic Position (D2)
<input type="checkbox"/> Water-Stained Leaves (B9)		<input type="checkbox"/> Shallow Aquitard (D3)
<input type="checkbox"/> Aquatic Fauna (B13)		<input type="checkbox"/> Microtopographic Relief (D4)
		<input type="checkbox"/> FAC-Neutral Test (D5)
<b>Field Observations:</b>		
Surface Water Present? Yes _____ No <input checked="" type="checkbox"/> Depth (inches): _____		
Water Table Present? Yes _____ No <input checked="" type="checkbox"/> Depth (inches): _____		
Saturation Present? Yes _____ No <input checked="" type="checkbox"/> Depth (inches): _____ (includes capillary fringe)		
		<b>Wetland Hydrology Present? Yes _____ No <input checked="" type="checkbox"/></b>
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:		
Remarks:		

**VEGETATION (Five Strata) – Use scientific names of plants.**

 Sampling Point: DP-24, UPL

Tree Stratum (Plot size: <u>20'x20'</u> )	Absolute % Cover	Dominant Species?	Indicator Status															
1. <u>Liriodendron tulipifera</u>	<u>20%</u>	<u>YES</u>	<u>FACU</u>	<b>Dominance Test worksheet:</b> Number of Dominant Species That Are OBL, FACW, or FAC: <u>2</u> (A)  Total Number of Dominant Species Across All Strata: <u>6</u> (B)  Percent of Dominant Species That Are OBL, FACW, or FAC: <u>33%</u> (A/B)														
2. <u>Fagus grandifolia</u>	<u>25%</u>	<u>YES</u>	<u>FACU</u>															
3. _____																		
4. _____																		
5. _____																		
6. _____																		
<u>45%</u> = Total Cover				<b>Prevalence Index worksheet:</b> <table style="width: 100%;"> <tr> <th style="width: 50%;">Total % Cover of:</th> <th style="width: 50%;">Multiply by:</th> </tr> <tr> <td>OBL species <u>0</u></td> <td>x 1 = <u>0</u></td> </tr> <tr> <td>FACW species <u>0</u></td> <td>x 2 = <u>0</u></td> </tr> <tr> <td>FAC species <u>25</u></td> <td>x 3 = <u>75</u></td> </tr> <tr> <td>FACU species <u>75</u></td> <td>x 4 = <u>300</u></td> </tr> <tr> <td>UPL species <u>0</u></td> <td>x 5 = <u>0</u></td> </tr> <tr> <td>Column Totals: <u>100</u> (A)</td> <td><u>375</u> (B)</td> </tr> </table> Prevalence Index = B/A = <u>3.75</u>	Total % Cover of:	Multiply by:	OBL species <u>0</u>	x 1 = <u>0</u>	FACW species <u>0</u>	x 2 = <u>0</u>	FAC species <u>25</u>	x 3 = <u>75</u>	FACU species <u>75</u>	x 4 = <u>300</u>	UPL species <u>0</u>	x 5 = <u>0</u>	Column Totals: <u>100</u> (A)	<u>375</u> (B)
Total % Cover of:	Multiply by:																	
OBL species <u>0</u>	x 1 = <u>0</u>																	
FACW species <u>0</u>	x 2 = <u>0</u>																	
FAC species <u>25</u>	x 3 = <u>75</u>																	
FACU species <u>75</u>	x 4 = <u>300</u>																	
UPL species <u>0</u>	x 5 = <u>0</u>																	
Column Totals: <u>100</u> (A)	<u>375</u> (B)																	
50% of total cover: <u>22.5%</u> 20% of total cover: <u>9%</u>																		
Sapling Stratum (Plot size: <u>20'x20'</u> )																		
1. <u>Ilex opaca</u>	<u>15%</u>	<u>YES</u>	<u>FAC</u>															
2. <u>Acer rubrum</u>	<u>10%</u>	<u>YES</u>	<u>FAC</u>															
3. _____																		
4. _____																		
5. _____																		
6. _____																		
<u>25%</u> = Total Cover																		
50% of total cover: <u>12.5%</u> 20% of total cover: <u>5%</u>																		
Shrub Stratum (Plot size: <u>20'x20'</u> )																		
1. _____																		
2. _____																		
3. _____																		
4. _____																		
5. _____																		
6. _____																		
<u>      </u> = Total Cover																		
50% of total cover: <u>      </u> 20% of total cover: <u>      </u>																		
Herb Stratum (Plot size: <u>20'x20'</u> )																		
1. <u>Polystichum acrostichoides</u>	<u>15%</u>	<u>YES</u>	<u>FACU</u>	<b>Hydrophytic Vegetation Indicators:</b> <input type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation <input type="checkbox"/> 2 - Dominance Test is >50% <input type="checkbox"/> 3 - Prevalence Index is ≤3.0 <sup>1</sup> <input type="checkbox"/> 4 - Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)  <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.														
2. _____																		
3. _____																		
4. _____																		
5. _____																		
6. _____																		
7. _____																		
8. _____																		
9. _____																		
10. _____																		
11. _____																		
<u>15%</u> = Total Cover																		
50% of total cover: <u>7.5%</u> 20% of total cover: <u>3%</u>																		
Woody Vine Stratum (Plot size: <u>20'x20'</u> )																		
1. <u>Smilax rotundifolia</u>	<u>15%</u>	<u>YES</u>	<u>FAC</u>	<b>Definitions of Five Vegetation Strata:</b>  <b>Tree</b> – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).  <b>Sapling</b> – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.  <b>Shrub</b> – Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.  <b>Herb</b> – All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately 3 ft (1 m) in height.  <b>Woody vine</b> – All woody vines, regardless of height.														
2. _____																		
3. _____																		
4. _____																		
5. _____																		
<u>15%</u> = Total Cover																		
50% of total cover: <u>7.5%</u> 20% of total cover: <u>3%</u>																		
Remarks: (Include photo numbers here or on a separate sheet.)																		

## SOIL

Sampling Point: DP-24, UPL

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)								
Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>		
0-6	10YR 5/3	100					Sandy Loam	
6-18	10YR 6/4	100					Sandy Loam	

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.

<sup>2</sup>Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:			Indicators for Problematic Hydric Soils <sup>3</sup> :		
<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Dark Surface (S7)	<input type="checkbox"/> 2 cm Muck (A10) ( <b>MLRA 147</b> )			
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Polyvalue Below Surface (S8) ( <b>MLRA 147, 148</b> )	<input type="checkbox"/> Coast Prairie Redox (A16)			
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Thin Dark Surface (S9) ( <b>MLRA 147, 148</b> )	<input type="checkbox"/> <b>(MLRA 147, 148)</b>			
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Piedmont Floodplain Soils (F19)			
<input type="checkbox"/> Stratified Layers (A5)	<input type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> <b>(MLRA 136, 147)</b>			
<input type="checkbox"/> 2 cm Muck (A10) ( <b>LRR N</b> )	<input type="checkbox"/> Redox Dark Surface (F6)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)			
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Dark Surface (F7)	<input type="checkbox"/> Other (Explain in Remarks)			
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Redox Depressions (F8)				
<input type="checkbox"/> Sandy Mucky Mineral (S1) ( <b>LRR N,</b>	<input type="checkbox"/> Iron-Manganese Masses (F12) ( <b>LRR N,</b>				
<b>MLRA 147, 148</b> )	<b>MLRA 136</b> )				
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Umbric Surface (F13) ( <b>MLRA 136, 122</b> )				
<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) ( <b>MLRA 148</b> )				
<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Red Parent Material (F21) ( <b>MLRA 127, 147</b> )				

Restrictive Layer (if observed):

Type: \_\_\_\_\_

Depth (inches): \_\_\_\_\_

Hydric Soil Present?    Yes \_\_\_\_\_    No ☒

Remarks:



# WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

Project/Site: Cumberland County Property City/County: Cumberland County Sampling Date: 4/30/2018  
 Applicant/Owner: CWV, LLC; c/o James H. Martin State: VA Sampling Point: DP-25  
 Investigator(s): Shannon D. Hill Section, Township, Range: Tax Map # 45-A-1  
 Landform (hillslope, terrace, etc.): Floodplain Local relief (concave, convex, none): \_\_\_\_\_ Slope (%): 1-3%  
 Subregion (LRR or MLRA): n/a Lat: 37.570037163 Long: -78.113701395 Datum: \_\_\_\_\_  
 Soil Map Unit Name: Chewacla and Monocan soils/Poindexter Wedowee complex NWI classification: R3  
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes ☒ No \_\_\_\_\_ (If no, explain in Remarks.)  
 Are Vegetation \_\_\_\_\_, Soil \_\_\_\_\_, or Hydrology \_\_\_\_\_ significantly disturbed? Are "Normal Circumstances" present? Yes ☒ No \_\_\_\_\_  
 Are Vegetation \_\_\_\_\_, Soil \_\_\_\_\_, or Hydrology \_\_\_\_\_ naturally problematic? (If needed, explain any answers in Remarks.)

## SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No _____	Is the Sampled Area within a Wetland? Yes <input checked="" type="checkbox"/> No _____
Hydric Soil Present? Yes <input checked="" type="checkbox"/> No _____	
Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No _____	
Remarks:  Data point was taken next to flag G-437.	

## HYDROLOGY

<b>Wetland Hydrology Indicators:</b> <u>Primary Indicators (minimum of one is required; check all that apply)</u> <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> True Aquatic Plants (B14) <input checked="" type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input checked="" type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> Aquatic Fauna (B13)		<u>Secondary Indicators (minimum of two required)</u> <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <input checked="" type="checkbox"/> Drainage Patterns (B10) <input checked="" type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input checked="" type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> Microtopographic Relief (D4) <input type="checkbox"/> FAC-Neutral Test (D5)
<b>Field Observations:</b> Surface Water Present? Yes _____ No <input checked="" type="checkbox"/> Depth (inches): _____ Water Table Present? Yes <input checked="" type="checkbox"/> No _____ Depth (inches): <u>4"</u> Saturation Present? Yes _____ No <input checked="" type="checkbox"/> Depth (inches): _____ (includes capillary fringe)	Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No _____	
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:		
Remarks:		

**VEGETATION (Five Strata) – Use scientific names of plants.**

 Sampling Point: DP-25

Tree Stratum (Plot size: <u>20'x20'</u> )	Absolute % Cover	Dominant Species?	Indicator Status	
1. <u>Betula nigra</u>	<u>20%</u>	<u>YES</u>	<u>FACW</u>	<b>Dominance Test worksheet:</b> Number of Dominant Species That Are OBL, FACW, or FAC: <u>6</u> (A)  Total Number of Dominant Species Across All Strata: <u>6</u> (B)  Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100%</u> (A/B)
2. <u>Acer rubrum</u>	<u>5%</u>	<u>YES</u>	<u>FAC</u>	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
<u>25%</u> = Total Cover 50% of total cover: <u>12.5%</u> 20% of total cover: <u>5%</u>				<b>Prevalence Index worksheet:</b> Total % Cover of: _____ Multiply by: OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: _____ (A) _____ (B)  Prevalence Index = B/A = _____
<b>Sapling Stratum (Plot size: <u>20'x20'</u> )</b>				
1. <u>Acer rubrum</u>	<u>20%</u>	<u>YES</u>	<u>FACW</u>	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
<u>20%</u> = Total Cover 50% of total cover: <u>10%</u> 20% of total cover: <u>4%</u>				<b>Hydrophytic Vegetation Indicators:</b> <input type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation <input checked="" type="checkbox"/> 2 - Dominance Test is >50% <input type="checkbox"/> 3 - Prevalence Index is ≤3.0 <sup>1</sup> <input type="checkbox"/> 4 - Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)  <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
<b>Shrub Stratum (Plot size: <u>20'x20'</u> )</b>				
1. <u>Alnus serrulata</u>	<u>20%</u>	<u>YES</u>	<u>FACW</u>	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
<u>20%</u> = Total Cover 50% of total cover: _____ 20% of total cover: _____				<b>Definitions of Five Vegetation Strata:</b>  <b>Tree</b> – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).  <b>Sapling</b> – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.  <b>Shrub</b> – Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.  <b>Herb</b> – All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately 3 ft (1 m) in height.  <b>Woody vine</b> – All woody vines, regardless of height.
<b>Herb Stratum (Plot size: <u>20'x20'</u> )</b>				
1. <u>Athyrium angustum</u>	<u>20%</u>	<u>YES</u>	<u>FACW</u>	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
<u>20%</u> = Total Cover 50% of total cover: <u>10%</u> 20% of total cover: <u>5%</u>				<b>Hydrophytic Vegetation Present?</b> Yes <u>X</u> No _____
<b>Woody Vine Stratum (Plot size: <u>20'x20'</u> )</b>				
1. <u>Vitis riparia</u>	<u>15%</u>	<u>YES</u>	<u>FACW</u>	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
<u>15%</u> = Total Cover 50% of total cover: _____ 20% of total cover: _____				
Remarks: (Include photo numbers here or on a separate sheet.)				

## SOIL

Sampling Point: DP-25

[illegible]

## WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

Project/Site: Cumberland County Property City/County: Cumberland County Sampling Date: 4/30/2018  
Applicant/Owner: CWV, LLC; c/o James H. Martin State: VA Sampling Point: DP-25, UPL  
Investigator(s): Shannon D. Hill Section, Township, Range: Tax Map #45-A-1  
Landform (hillslope, terrace, etc.): Hillslope/Toe of Slope Local relief (concave, convex, none): \_\_\_\_\_ Slope (%): 3-5%  
Subregion (LRR or MLRA): n/a Lat: 37.570037163 Long: -78.113701395 Datum: \_\_\_\_\_  
Soil Map Unit Name: Chewacla and Monocan soils/Poindexter Wedowee complex NWI classification: UPL  
Are climatic / hydrologic conditions on the site typical for this time of year? Yes ☒ No \_\_\_\_\_ (If no, explain in Remarks.)  
Are Vegetation \_\_\_\_\_, Soil \_\_\_\_\_, or Hydrology \_\_\_\_\_ significantly disturbed? Are "Normal Circumstances" present? Yes ☒ No \_\_\_\_\_  
Are Vegetation \_\_\_\_\_, Soil \_\_\_\_\_, or Hydrology \_\_\_\_\_ naturally problematic? (If needed, explain any answers in Remarks.)

### SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

<p>Hydrophytic Vegetation Present? Yes _____ No <input checked="" type="checkbox"/></p> <p>Hydric Soil Present? Yes _____ No <input checked="" type="checkbox"/></p> <p>Wetland Hydrology Present? Yes _____ No <input checked="" type="checkbox"/></p>	<p><b>Is the Sampled Area within a Wetland?</b> Yes _____ No <input checked="" type="checkbox"/></p>
<p>Remarks:</p> <p style="margin-left: 40px;">Data point was taken adjacent to flag G-437.</p>	

### HYDROLOGY

<b>Wetland Hydrology Indicators:</b>		<u>Secondary Indicators (minimum of two required)</u>
<u>Primary Indicators (minimum of one is required; check all that apply)</u>		
<input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> Aquatic Fauna (B13)	<input type="checkbox"/> True Aquatic Plants (B14) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> Microtopographic Relief (D4) <input type="checkbox"/> FAC-Neutral Test (D5)
<b>Field Observations:</b>		
Surface Water Present? Yes _____ No <input checked="" type="checkbox"/> Depth (inches): _____	Water Table Present? Yes _____ No <input checked="" type="checkbox"/> Depth (inches): _____	
Saturation Present? Yes _____ No <input checked="" type="checkbox"/> Depth (inches): _____ (includes capillary fringe)		<b>Wetland Hydrology Present?</b> Yes _____ No <input checked="" type="checkbox"/>
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:		
<p>Remarks:</p>		

**VEGETATION (Five Strata) – Use scientific names of plants.**

 Sampling Point: DP-25, UPL

Tree Stratum (Plot size: <u>20'x20'</u> )	Absolute % Cover	Dominant Species?	Indicator Status															
1. <u>Liriodendron tulipifera</u>	<u>20%</u>	<u>YES</u>	<u>FACU</u>	<b>Dominance Test worksheet:</b> Number of Dominant Species That Are OBL, FACW, or FAC: <u>0</u> (A)  Total Number of Dominant Species Across All Strata: <u>5</u> (B)  Percent of Dominant Species That Are OBL, FACW, or FAC: <u>0%</u> (A/B)														
2. <u>Fagus grandifolia</u>	<u>25%</u>	<u>YES</u>	<u>FACU</u>															
3. <u>Quercus alba</u>	<u>20%</u>	<u>YES</u>	<u>FACU</u>															
4. _____																		
5. _____																		
6. _____																		
<u>65%</u> = Total Cover				<b>Prevalence Index worksheet:</b> <table style="width: 100%;"> <tr> <th style="width: 50%;">Total % Cover of:</th> <th style="width: 50%;">Multiply by:</th> </tr> <tr> <td>OBL species <u>0</u></td> <td>x 1 = <u>0</u></td> </tr> <tr> <td>FACW species <u>0</u></td> <td>x 2 = <u>0</u></td> </tr> <tr> <td>FAC species <u>0</u></td> <td>x 3 = <u>0</u></td> </tr> <tr> <td>FACU species <u>100</u></td> <td>x 4 = <u>400</u></td> </tr> <tr> <td>UPL species <u>0</u></td> <td>x 5 = <u>0</u></td> </tr> <tr> <td>Column Totals: <u>100</u> (A)</td> <td><u>400</u> (B)</td> </tr> </table> Prevalence Index = B/A = <u>4.00</u>	Total % Cover of:	Multiply by:	OBL species <u>0</u>	x 1 = <u>0</u>	FACW species <u>0</u>	x 2 = <u>0</u>	FAC species <u>0</u>	x 3 = <u>0</u>	FACU species <u>100</u>	x 4 = <u>400</u>	UPL species <u>0</u>	x 5 = <u>0</u>	Column Totals: <u>100</u> (A)	<u>400</u> (B)
Total % Cover of:	Multiply by:																	
OBL species <u>0</u>	x 1 = <u>0</u>																	
FACW species <u>0</u>	x 2 = <u>0</u>																	
FAC species <u>0</u>	x 3 = <u>0</u>																	
FACU species <u>100</u>	x 4 = <u>400</u>																	
UPL species <u>0</u>	x 5 = <u>0</u>																	
Column Totals: <u>100</u> (A)	<u>400</u> (B)																	
50% of total cover: <u>32.5%</u> 20% of total cover: <u>13%</u>																		
Sapling Stratum (Plot size: <u>20'x20'</u> )																		
1. <u>Fagus grandifolia</u>	<u>15%</u>	<u>YES</u>	<u>FACU</u>															
2. _____																		
3. _____																		
4. _____																		
5. _____																		
6. _____																		
<u>15%</u> = Total Cover																		
50% of total cover: <u>7.5%</u> 20% of total cover: <u>3%</u>																		
Shrub Stratum (Plot size: <u>20'x20'</u> )																		
1. _____																		
2. _____																		
3. _____																		
4. _____																		
5. _____																		
6. _____																		
_____ = Total Cover																		
50% of total cover: _____ 20% of total cover: _____																		
Herb Stratum (Plot size: <u>20'x20'</u> )																		
1. <u>Polystichum acrostichoides</u>	<u>20%</u>	<u>YES</u>	<u>FACU</u>															
2. _____																		
3. _____																		
4. _____																		
5. _____																		
6. _____																		
7. _____																		
8. _____																		
9. _____																		
10. _____																		
11. _____																		
<u>20%</u> = Total Cover																		
50% of total cover: <u>10%</u> 20% of total cover: <u>4%</u>																		
Woody Vine Stratum (Plot size: <u>20'x20'</u> )																		
1. _____																		
2. _____																		
3. _____																		
4. _____																		
5. _____																		
_____ = Total Cover																		
50% of total cover: _____ 20% of total cover: _____																		
Remarks: (Include photo numbers here or on a separate sheet.)																		

**Definitions of Five Vegetation Strata:**  
  
**Tree** – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).  
  
**Sapling** – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.  
  
**Shrub** – Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.  
  
**Herb** – All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately 3 ft (1 m) in height.  
  
**Woody vine** – All woody vines, regardless of height.

**Hydrophytic Vegetation Present?** Yes \_\_\_\_\_ No X

## SOIL

Sampling Point: DP-25, UPL

[illegible]

# WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

Project/Site: Cumberland County Property City/County: Cumberland County Sampling Date: 4/30/2018  
 Applicant/Owner: CWV, LLC; c/o James H. Martin State: VA Sampling Point: DP-26  
 Investigator(s): Hannah L. Miller Section, Township, Range: Tax Map # 38-A-7  
 Landform (hillslope, terrace, etc.): Floodplain Local relief (concave, convex, none): \_\_\_\_\_ Slope (%): 0-2%  
 Subregion (LRR or MLRA): n/a Lat: 37.580490500 Long: -78.115965775 Datum: \_\_\_\_\_  
 Soil Map Unit Name: Chewacla and Monocan soils NWI classification: PFO

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ☒ No \_\_\_\_\_ (If no, explain in Remarks.)  
 Are Vegetation \_\_\_\_\_, Soil \_\_\_\_\_, or Hydrology \_\_\_\_\_ significantly disturbed? Are "Normal Circumstances" present? Yes ☒ No \_\_\_\_\_  
 Are Vegetation \_\_\_\_\_, Soil \_\_\_\_\_, or Hydrology \_\_\_\_\_ naturally problematic? (If needed, explain any answers in Remarks.)

## SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No _____	Is the Sampled Area within a Wetland? Yes <input checked="" type="checkbox"/> No _____
Hydric Soil Present? Yes <input checked="" type="checkbox"/> No _____	
Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No _____	
Remarks:  Data point was taken next to flag O-55.	

## HYDROLOGY

<b>Wetland Hydrology Indicators:</b> <u>Primary Indicators (minimum of one is required; check all that apply)</u> <input checked="" type="checkbox"/> Surface Water (A1) _____ True Aquatic Plants (B14) <input checked="" type="checkbox"/> High Water Table (A2) _____ Hydrogen Sulfide Odor (C1) <input checked="" type="checkbox"/> Saturation (A3) _____ Oxidized Rhizospheres on Living Roots (C3) _____ Water Marks (B1) _____ Presence of Reduced Iron (C4) _____ Sediment Deposits (B2) _____ Recent Iron Reduction in Tilled Soils (C6) _____ Drift Deposits (B3) _____ Thin Muck Surface (C7) _____ Algal Mat or Crust (B4) _____ Other (Explain in Remarks) _____ Iron Deposits (B5) _____ Inundation Visible on Aerial Imagery (B7) <input checked="" type="checkbox"/> Water-Stained Leaves (B9) _____ Aquatic Fauna (B13)		<u>Secondary Indicators (minimum of two required)</u> _____ Surface Soil Cracks (B6) _____ Sparsely Vegetated Concave Surface (B8) <input checked="" type="checkbox"/> Drainage Patterns (B10) <input checked="" type="checkbox"/> Moss Trim Lines (B16) _____ Dry-Season Water Table (C2) _____ Crayfish Burrows (C8) _____ Saturation Visible on Aerial Imagery (C9) _____ Stunted or Stressed Plants (D1) <input checked="" type="checkbox"/> Geomorphic Position (D2) _____ Shallow Aquitard (D3) _____ Microtopographic Relief (D4) _____ FAC-Neutral Test (D5)
<b>Field Observations:</b> Surface Water Present? Yes <input checked="" type="checkbox"/> No _____ Depth (inches): <u>0"</u> Water Table Present? Yes <input checked="" type="checkbox"/> No _____ Depth (inches): <u>4"</u> Saturation Present? Yes <input checked="" type="checkbox"/> No _____ Depth (inches): <u>2"</u> (includes capillary fringe)	Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No _____	
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:		
Remarks:		

**VEGETATION (Five Strata) – Use scientific names of plants.**

 Sampling Point: DP-26

Tree Stratum (Plot size: <u>20'x20'</u> )	Absolute % Cover	Dominant Species?	Indicator Status	
1. <u>Carpinus caroliniana</u>	10%	YES	FACW	<b>Dominance Test worksheet:</b> Number of Dominant Species That Are OBL, FACW, or FAC: <u>7</u> (A)  Total Number of Dominant Species Across All Strata: <u>7</u> (B)  Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100%</u> (A/B)
2. _____				
3. _____				
4. _____				
5. _____				
6. _____				
10% = Total Cover				<b>Prevalence Index worksheet:</b> Total % Cover of: _____ Multiply by: OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: _____ (A) _____ (B)  Prevalence Index = B/A = _____
50% of total cover: <u>5%</u> 20% of total cover: <u>2%</u>				
Sapling Stratum (Plot size: <u>20'x20'</u> )				
1. <u>Acer rubrum</u>	15%	YES	FAC	
2. _____				
3. _____				
4. _____				
5. _____				
6. _____				
15% = Total Cover				<b>Hydrophytic Vegetation Indicators:</b> <input type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation <input checked="" type="checkbox"/> 2 - Dominance Test is >50% <input type="checkbox"/> 3 - Prevalence Index is ≤3.0 <sup>1</sup> <input type="checkbox"/> 4 - Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)  <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
50% of total cover: <u>7.5%</u> 20% of total cover: <u>3%</u>				
Shrub Stratum (Plot size: <u>20'x20'</u> )				
1. _____				
2. _____				
3. _____				
4. _____				
5. _____				
6. _____				
_____ = Total Cover				<b>Definitions of Five Vegetation Strata:</b>  <b>Tree</b> – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).  <b>Sapling</b> – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.  <b>Shrub</b> – Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.  <b>Herb</b> – All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately 3 ft (1 m) in height.  <b>Woody vine</b> – All woody vines, regardless of height.
50% of total cover: _____ 20% of total cover: _____				
Herb Stratum (Plot size: <u>20'x20'</u> )				
1. <u>Peltandra virginica</u>	30%	YES	OBL	
2. <u>Onoclea sensibilis</u>	10%	YES	FACW	
3. <u>Sagittaria latifolia</u>	10%	YES	OBL	
4. <u>Juncus effusus</u>	15%	YES	FACW	
5. _____				
6. _____				
7. _____				
8. _____				
9. _____				
10. _____				
11. _____				
65% = Total Cover				<b>Hydrophytic Vegetation Present?</b> Yes <u>X</u> No _____
50% of total cover: <u>32.5%</u> 20% of total cover: <u>13%</u>				
Woody Vine Stratum (Plot size: <u>20'x20'</u> )				
1. <u>Smilax rotundifolia</u>	10%	YES	FAC	
2. _____				
3. _____				
4. _____				
5. _____				
10% = Total Cover				
50% of total cover: <u>5%</u> 20% of total cover: <u>2%</u>				
Remarks: (Include photo numbers here or on a separate sheet.)				



## SOIL

Sampling Point: DP-26

[illegible]

# WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

Project/Site: Cumberland County Property City/County: Cumberland County Sampling Date: 4/30/2018  
 Applicant/Owner: CWV, LLC; c/o James H. Martin State: VA Sampling Point: DP-26, UPL  
 Investigator(s): Hannah L. Miller Section, Township, Range: Tax Map #38-A-7  
 Landform (hillslope, terrace, etc.): Hillslope/Toe of Slope Local relief (concave, convex, none): \_\_\_\_\_ Slope (%): 3-5%  
 Subregion (LRR or MLRA): n/a Lat: 37.580490500 Long: -78.115965775 Datum: \_\_\_\_\_  
 Soil Map Unit Name: Chewacla and Monocan soils NWI classification: UPL  
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes ☒ No \_\_\_\_\_ (If no, explain in Remarks.)  
 Are Vegetation \_\_\_\_\_, Soil \_\_\_\_\_, or Hydrology \_\_\_\_\_ significantly disturbed? Are "Normal Circumstances" present? Yes ☒ No \_\_\_\_\_  
 Are Vegetation \_\_\_\_\_, Soil \_\_\_\_\_, or Hydrology \_\_\_\_\_ naturally problematic? (If needed, explain any answers in Remarks.)

## SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes _____ No <input checked="" type="checkbox"/> Hydric Soil Present? Yes _____ No <input checked="" type="checkbox"/> Wetland Hydrology Present? Yes _____ No <input checked="" type="checkbox"/>	<b>Is the Sampled Area within a Wetland?</b> Yes _____ No <input checked="" type="checkbox"/>
Remarks:  Data point was taken adjacent to flag O-55.	

## HYDROLOGY

<b>Wetland Hydrology Indicators:</b> <u>Primary Indicators (minimum of one is required; check all that apply)</u> <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> True Aquatic Plants (B14) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> Aquatic Fauna (B13)		<u>Secondary Indicators (minimum of two required)</u> <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> Microtopographic Relief (D4) <input type="checkbox"/> FAC-Neutral Test (D5)
<b>Field Observations:</b> Surface Water Present? Yes _____ No <input checked="" type="checkbox"/> Depth (inches): _____ Water Table Present? Yes _____ No <input checked="" type="checkbox"/> Depth (inches): _____ Saturation Present? Yes _____ No <input checked="" type="checkbox"/> Depth (inches): _____ (includes capillary fringe)	<b>Wetland Hydrology Present?</b> Yes _____ No <input checked="" type="checkbox"/>	
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:		
Remarks:		

**VEGETATION (Five Strata) – Use scientific names of plants.**

 Sampling Point: DP-26, UPL

Tree Stratum (Plot size: <u>20'x20'</u> )	Absolute % Cover	Dominant Species?	Indicator Status															
1. <u>Liriodendron tulipifera</u>	<u>25%</u>	<u>YES</u>	<u>FACU</u>	<b>Dominance Test worksheet:</b> Number of Dominant Species That Are OBL, FACW, or FAC: <u>1</u> (A)  Total Number of Dominant Species Across All Strata: <u>5</u> (B)  Percent of Dominant Species That Are OBL, FACW, or FAC: <u>20%</u> (A/B)														
2. <u>Fagus grandifolia</u>	<u>20%</u>	<u>YES</u>	<u>FACU</u>															
3. _____																		
4. _____																		
5. _____																		
6. _____																		
<u>45%</u> = Total Cover				<b>Prevalence Index worksheet:</b> <table style="width: 100%;"> <tr> <td style="width: 50%;">Total % Cover of:</td> <td style="width: 50%;">Multiply by:</td> </tr> <tr> <td>OBL species <u>0</u></td> <td>x 1 = <u>0</u></td> </tr> <tr> <td>FACW species <u>0</u></td> <td>x 2 = <u>0</u></td> </tr> <tr> <td>FAC species <u>15</u></td> <td>x 3 = <u>45</u></td> </tr> <tr> <td>FACU species <u>65</u></td> <td>x 4 = <u>260</u></td> </tr> <tr> <td>UPL species <u>20</u></td> <td>x 5 = <u>100</u></td> </tr> <tr> <td>Column Totals: <u>100</u></td> <td>(A) <u>400</u> (B)</td> </tr> </table> Prevalence Index = B/A = <u>4.00</u>	Total % Cover of:	Multiply by:	OBL species <u>0</u>	x 1 = <u>0</u>	FACW species <u>0</u>	x 2 = <u>0</u>	FAC species <u>15</u>	x 3 = <u>45</u>	FACU species <u>65</u>	x 4 = <u>260</u>	UPL species <u>20</u>	x 5 = <u>100</u>	Column Totals: <u>100</u>	(A) <u>400</u> (B)
Total % Cover of:	Multiply by:																	
OBL species <u>0</u>	x 1 = <u>0</u>																	
FACW species <u>0</u>	x 2 = <u>0</u>																	
FAC species <u>15</u>	x 3 = <u>45</u>																	
FACU species <u>65</u>	x 4 = <u>260</u>																	
UPL species <u>20</u>	x 5 = <u>100</u>																	
Column Totals: <u>100</u>	(A) <u>400</u> (B)																	
50% of total cover: <u>42.5%</u> 20% of total cover: <u>9%</u>																		
Sapling Stratum (Plot size: <u>20'x20'</u> )																		
1. <u>Ilex opaca</u>	<u>15%</u>	<u>YES</u>	<u>FAC</u>															
2. _____																		
3. _____																		
4. _____																		
5. _____																		
6. _____																		
<u>15%</u> = Total Cover																		
50% of total cover: <u>7.5%</u> 20% of total cover: <u>3%</u>																		
Shrub Stratum (Plot size: <u>20'x20'</u> )																		
1. _____																		
2. _____																		
3. _____																		
4. _____																		
5. _____																		
6. _____																		
_____ = Total Cover																		
50% of total cover: _____ 20% of total cover: _____																		
Herb Stratum (Plot size: <u>20'x20'</u> )																		
1. <u>Polystichum acrostichoides</u>	<u>20%</u>	<u>YES</u>	<u>FACU</u>	<b>Definitions of Five Vegetation Strata:</b>  <b>Tree</b> – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).  <b>Sapling</b> – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.  <b>Shrub</b> – Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.  <b>Herb</b> – All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately 3 ft (1 m) in height.  <b>Woody vine</b> – All woody vines, regardless of height.														
2. <u>Podophyllum peltatum</u>	<u>20%</u>	<u>YES</u>	<u>UPL</u>															
3. _____																		
4. _____																		
5. _____																		
6. _____																		
7. _____																		
8. _____																		
9. _____																		
10. _____																		
11. _____																		
<u>40%</u> = Total Cover																		
50% of total cover: <u>20%</u> 20% of total cover: <u>8%</u>																		
Woody Vine Stratum (Plot size: <u>20'x20'</u> )																		
1. _____																		
2. _____																		
3. _____																		
4. _____																		
5. _____																		
_____ = Total Cover																		
50% of total cover: _____ 20% of total cover: _____																		
Remarks: (Include photo numbers here or on a separate sheet.)																		

## SOIL

Sampling Point: DP-26, UPL

[illegible]

# WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

Project/Site: Cumberland County Property City/County: Cumberland County Sampling Date: 4/31/2018  
 Applicant/Owner: CWV, LLC; c/o James H. Martin State: VA Sampling Point: DP-27  
 Investigator(s): Hannah L. Miller Section, Township, Range: Tax Map # 38-A-7  
 Landform (hillslope, terrace, etc.): Floodplain Local relief (concave, convex, none): \_\_\_\_\_ Slope (%): 1-3%  
 Subregion (LRR or MLRA): n/a Lat: 37.578670227 Long: -78.113907052 Datum: \_\_\_\_\_  
 Soil Map Unit Name: Chewacla and Monocan soils NWI classification: R3

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ☒ No \_\_\_\_\_ (If no, explain in Remarks.)  
 Are Vegetation \_\_\_\_\_, Soil \_\_\_\_\_, or Hydrology \_\_\_\_\_ significantly disturbed? Are "Normal Circumstances" present? Yes ☒ No \_\_\_\_\_  
 Are Vegetation \_\_\_\_\_, Soil \_\_\_\_\_, or Hydrology \_\_\_\_\_ naturally problematic? (If needed, explain any answers in Remarks.)

## SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No _____ Hydric Soil Present? Yes <input checked="" type="checkbox"/> No _____ Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No _____	Is the Sampled Area within a Wetland? Yes <input checked="" type="checkbox"/> No _____
Remarks:  Data point was taken next to flag O-294.	

## HYDROLOGY

<b>Wetland Hydrology Indicators:</b> <u>Primary Indicators (minimum of one is required; check all that apply)</u> <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> True Aquatic Plants (B14) <input checked="" type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input checked="" type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> Aquatic Fauna (B13)		<u>Secondary Indicators (minimum of two required)</u> <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <input checked="" type="checkbox"/> Drainage Patterns (B10) <input checked="" type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input checked="" type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> Microtopographic Relief (D4) <input type="checkbox"/> FAC-Neutral Test (D5)
<b>Field Observations:</b> Surface Water Present? Yes _____ No <input checked="" type="checkbox"/> Depth (inches): _____ Water Table Present? Yes <input checked="" type="checkbox"/> No _____ Depth (inches): <u>4"</u> Saturation Present? Yes _____ No <input checked="" type="checkbox"/> Depth (inches): _____ (includes capillary fringe)	Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No _____	
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:		
Remarks:		

**VEGETATION (Five Strata) – Use scientific names of plants.**

 Sampling Point: DP-27

Tree Stratum (Plot size: <u>20'x20'</u> )	Absolute % Cover	Dominant Species?	Indicator Status	
1. <u>Carpinus caroliniana</u>	<u>15%</u>	<u>YES</u>	<u>FACW</u>	<b>Dominance Test worksheet:</b> Number of Dominant Species That Are OBL, FACW, or FAC: <u>6</u> (A)  Total Number of Dominant Species Across All Strata: <u>7</u> (B)  Percent of Dominant Species That Are OBL, FACW, or FAC: <u>85%</u> (A/B)
2. <u>Liquidambar styraciflua</u>	<u>15%</u>	<u>NO</u>	<u>FAC</u>	
3. _____				
4. _____				
5. _____				
6. _____				
<u>30%</u> = Total Cover				<b>Prevalence Index worksheet:</b> Total % Cover of: _____ Multiply by: OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: _____ (A) _____ (B)  Prevalence Index = B/A = _____
50% of total cover: <u>15%</u> 20% of total cover: <u>6%</u>				
<b>Sapling Stratum</b> (Plot size: <u>20'x20'</u> )				
1. <u>Carpinus caroliniana</u>	<u>15%</u>	<u>YES</u>	<u>FACW</u>	
2. <u>Acer rubrum</u>	<u>15%</u>	<u>YES</u>	<u>FAC</u>	
3. _____				
4. _____				
5. _____				
6. _____				
<u>30%</u> = Total Cover				<b>Hydrophytic Vegetation Indicators:</b> <input type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation <input checked="" type="checkbox"/> 2 - Dominance Test is >50% <input type="checkbox"/> 3 - Prevalence Index is ≤3.0 <sup>1</sup> <input type="checkbox"/> 4 - Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)  <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
50% of total cover: <u>15%</u> 20% of total cover: <u>6%</u>				
<b>Shrub Stratum</b> (Plot size: <u>20'x20'</u> )				
1. _____				
2. _____				
3. _____				
4. _____				
5. _____				
6. _____				
<u>      </u> = Total Cover				<b>Definitions of Five Vegetation Strata:</b>  <b>Tree</b> – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).  <b>Sapling</b> – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.  <b>Shrub</b> – Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.  <b>Herb</b> – All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately 3 ft (1 m) in height.  <b>Woody vine</b> – All woody vines, regardless of height.
50% of total cover: _____ 20% of total cover: _____				
<b>Herb Stratum</b> (Plot size: <u>20'x20'</u> )				
1. <u>Athyrium angustum</u>	<u>20%</u>	<u>YES</u>	<u>FAC</u>	
2. <u>Podophyllum peltatum</u>	<u>10%</u>	<u>YES</u>	<u>FACU</u>	
3. _____				
4. _____				
5. _____				
6. _____				
7. _____				
8. _____				
9. _____				
10. _____				
11. _____				
<u>30%</u> = Total Cover				<b>Hydrophytic Vegetation Present?</b> Yes <u>X</u> No _____
50% of total cover: <u>15%</u> 20% of total cover: <u>6%</u>				
<b>Woody Vine Stratum</b> (Plot size: <u>20'x20'</u> )				
1. <u>Smilax rotundifolia</u>	<u>10%</u>	<u>YES</u>	<u>FAC</u>	
2. _____				
3. _____				
4. _____				
5. _____				
<u>10%</u> = Total Cover				
50% of total cover: <u>5%</u> 20% of total cover: <u>2%</u>				
Remarks: (Include photo numbers here or on a separate sheet.)				

## SOIL

Sampling Point: DP-27

[illegible]

## WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

Project/Site: Cumberland County Property City/County: Cumberland County Sampling Date: 4/31/2018  
Applicant/Owner: CWV, LLC; c/o James H. Martin State: VA Sampling Point: DP-27, UPL  
Investigator(s): Hannah L. Miller Section, Township, Range: Tax Map #38-A-7  
Landform (hillslope, terrace, etc.): Hillslope/Toe of Slope Local relief (concave, convex, none): \_\_\_\_\_ Slope (%): 1-3%  
Subregion (LRR or MLRA): n/a Lat: 37.578670227 Long: -78.113907052 Datum: \_\_\_\_\_  
Soil Map Unit Name: Chewacla and Monocan soils NWI classification: UPL  
Are climatic / hydrologic conditions on the site typical for this time of year? Yes ☒ No \_\_\_\_\_ (If no, explain in Remarks.)  
Are Vegetation \_\_\_\_\_, Soil \_\_\_\_\_, or Hydrology \_\_\_\_\_ significantly disturbed? Are "Normal Circumstances" present? Yes ☒ No \_\_\_\_\_  
Are Vegetation \_\_\_\_\_, Soil \_\_\_\_\_, or Hydrology \_\_\_\_\_ naturally problematic? (If needed, explain any answers in Remarks.)

### SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes _____ No <input checked="" type="checkbox"/>	Is the Sampled Area within a Wetland? Yes _____ No <input checked="" type="checkbox"/>
Hydric Soil Present? Yes _____ No <input checked="" type="checkbox"/>	
Wetland Hydrology Present? Yes _____ No <input checked="" type="checkbox"/>	
Remarks:  Data point was taken adjacent to flag O-294.	

### HYDROLOGY

<b>Wetland Hydrology Indicators:</b>		<u>Secondary Indicators (minimum of two required)</u>
<u>Primary Indicators (minimum of one is required; check all that apply)</u>		
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> True Aquatic Plants (B14)	<input type="checkbox"/> Surface Soil Cracks (B6)
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)
<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3)	<input type="checkbox"/> Drainage Patterns (B10)
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Moss Trim Lines (B16)
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	<input type="checkbox"/> Dry-Season Water Table (C2)
<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Thin Muck Surface (C7)	<input type="checkbox"/> Crayfish Burrows (C8)
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)
<input type="checkbox"/> Iron Deposits (B5)		<input type="checkbox"/> Stunted or Stressed Plants (D1)
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)		<input type="checkbox"/> Geomorphic Position (D2)
<input type="checkbox"/> Water-Stained Leaves (B9)		<input type="checkbox"/> Shallow Aquitard (D3)
<input type="checkbox"/> Aquatic Fauna (B13)		<input type="checkbox"/> Microtopographic Relief (D4)
		<input type="checkbox"/> FAC-Neutral Test (D5)
<b>Field Observations:</b>		
Surface Water Present? Yes _____ No <input checked="" type="checkbox"/>	Depth (inches): _____	Wetland Hydrology Present? Yes _____ No <input checked="" type="checkbox"/>
Water Table Present? Yes _____ No <input checked="" type="checkbox"/>	Depth (inches): _____	
Saturation Present? Yes _____ No <input checked="" type="checkbox"/>	Depth (inches): _____ (includes capillary fringe)	
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:		
Remarks:		



**VEGETATION (Five Strata) – Use scientific names of plants.**

 Sampling Point: DP-27, UPL

Tree Stratum (Plot size: <u>20'x20'</u> )	Absolute % Cover	Dominant Species?	Indicator Status															
1. <u>Liriodendron tulipifera</u>	<u>20%</u>	YES	FACU	<b>Dominance Test worksheet:</b> Number of Dominant Species That Are OBL, FACW, or FAC: <u>1</u> (A)  Total Number of Dominant Species Across All Strata: <u>6</u> (B)  Percent of Dominant Species That Are OBL, FACW, or FAC: <u>16%</u> (A/B)														
2. <u>Fagus grandifolia</u>	<u>15%</u>	YES	FACU															
3. _____																		
4. _____																		
5. _____																		
6. _____																		
<u>35%</u> = Total Cover				<b>Prevalence Index worksheet:</b> <table style="width: 100%;"> <tr> <th style="width: 50%;">Total % Cover of:</th> <th style="width: 50%;">Multiply by:</th> </tr> <tr> <td>OBL species <u>0</u></td> <td>x 1 = <u>0</u></td> </tr> <tr> <td>FACW species <u>0</u></td> <td>x 2 = <u>0</u></td> </tr> <tr> <td>FAC species <u>15</u></td> <td>x 3 = <u>45</u></td> </tr> <tr> <td>FACU species <u>65</u></td> <td>x 4 = <u>260</u></td> </tr> <tr> <td>UPL species <u>20</u></td> <td>x 5 = <u>100</u></td> </tr> <tr> <td>Column Totals: <u>100</u> (A)</td> <td><u>400</u> (B)</td> </tr> </table> Prevalence Index = B/A = <u>4.00</u>	Total % Cover of:	Multiply by:	OBL species <u>0</u>	x 1 = <u>0</u>	FACW species <u>0</u>	x 2 = <u>0</u>	FAC species <u>15</u>	x 3 = <u>45</u>	FACU species <u>65</u>	x 4 = <u>260</u>	UPL species <u>20</u>	x 5 = <u>100</u>	Column Totals: <u>100</u> (A)	<u>400</u> (B)
Total % Cover of:	Multiply by:																	
OBL species <u>0</u>	x 1 = <u>0</u>																	
FACW species <u>0</u>	x 2 = <u>0</u>																	
FAC species <u>15</u>	x 3 = <u>45</u>																	
FACU species <u>65</u>	x 4 = <u>260</u>																	
UPL species <u>20</u>	x 5 = <u>100</u>																	
Column Totals: <u>100</u> (A)	<u>400</u> (B)																	
50% of total cover: <u>17.5%</u> 20% of total cover: <u>7%</u>																		
Sapling Stratum (Plot size: <u>20'x20'</u> )																		
1. <u>Ilex opaca</u>	<u>15%</u>	YES	FAC															
2. <u>Fagus grandifolia</u>	<u>10%</u>	YES	FACU															
3. _____																		
4. _____																		
5. _____																		
6. _____																		
<u>25%</u> = Total Cover																		
50% of total cover: <u>12.5%</u> 20% of total cover: <u>5%</u>																		
Shrub Stratum (Plot size: <u>20'x20'</u> )																		
1. _____																		
2. _____																		
3. _____																		
4. _____																		
5. _____																		
6. _____																		
<u>        </u> = Total Cover																		
50% of total cover: <u>        </u> 20% of total cover: <u>        </u>																		
Herb Stratum (Plot size: <u>20'x20'</u> )																		
1. <u>Polystichum acrostichoides</u>	<u>20%</u>	YES	FACU	<b>Hydrophytic Vegetation Indicators:</b> <input type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation <input type="checkbox"/> 2 - Dominance Test is >50% <input type="checkbox"/> 3 - Prevalence Index is ≤3.0 <sup>1</sup> <input type="checkbox"/> 4 - Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)  <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.														
2. <u>Podophyllum peltatum</u>	<u>20%</u>	YES	UPL															
3. _____																		
4. _____																		
5. _____																		
6. _____																		
7. _____																		
8. _____																		
9. _____																		
10. _____																		
11. _____																		
<u>40%</u> = Total Cover																		
50% of total cover: <u>20%</u> 20% of total cover: <u>8%</u>																		
Woody Vine Stratum (Plot size: <u>20'x20'</u> )																		
1. _____																		
2. _____																		
3. _____																		
4. _____																		
5. _____																		
<u>        </u> = Total Cover																		
50% of total cover: <u>        </u> 20% of total cover: <u>        </u>																		
Remarks: (Include photo numbers here or on a separate sheet.)																		

## SOIL

Sampling Point: DP-27, UPL

[illegible]